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ABSTRACT

This document consists of the two issues of the journal "Visual Arts in Research" published in 1994. This journal focuses on the theory and practice of visual arts education from educational, historical, philosophical, and psychological perspectives. Number 1 of this volume includes the following contributions: (1) "Zooming in on the Qualitative Paradigm in Art Education: Educational Criticism, Ethnography, and Action Research" (Liora Bresler); (2) "Idea-Keepers: Young Children's Drawings and Writings" (Priscilla Lund); (3) "How Should Students' Progress and Achievements in Art Be Assessed? A Case for Assessment that Is Responsive to Diverse Students' Needs" (Enid Zimmerman); (4) "My School and Me: Children's Drawings in Postmodern Educational Research and Evaluation" (Jan Gamradt; Carolyn Staples); (5) "The Effects of Development, Manipulation of Objects, and Verbal Cues on Spatial Representation in Young Children's Drawings" (Patricia J. Guthrie); (6) "The Effects of Textual Information on Artistic Communication" (Gerald C. Cupchik; Larry Shereck; Stacey Speigel); (7) Facilitating Cooperative Art Museum-School Relationships: Museum Educators' Suggestions" (Denise Lauzier Stone); and (8) "Challenging Notions of Curriculum Development" (Lydia Dambekains). Number 2 contains: (1) "Artistic Development in Context: Emergence and Development of Pictorial Imagery in the Early Childhood Years" (Anna M. Kindler; Bernard Darras); (2) "Drawing as Representation: The Child's Acquisition of a Meaningful Graphic Language" (Claire Golumb); (3) "Deep Structures in Children's Art: Development and Culture" (John Matthews); (4) "An Inner Critic in Children's Artists' Bookmaking" (Steve Thunder-McGuire); (5) "The Case for Developmentally Appropriate Lessons: The Child and Art" (Julia Kellman); (6) "Children Understanding Diversity in Their Community: 'Are We Home Yet?'" (Priscilla Lund); (7) "Development of a Sophisticated Early Childhood Art Program: Collaboration and Discovery" (Elizabeth Goldsmith-Conley; Sandra Bales); (8) "Toward a Sensible Education: Inquiring into the Role of the Visual Arts in Early Childhood Education" (David W. Baker). (MM)

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Zooming in on the Qualitative Paradigm in Art Education: Educational Criticism, Ethnography, and Action Research

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Abstract

Within the qualitative paradigm there are several related approaches each with distinct disciplinary and intellectual traditions. These approaches differ in their aims, in the issues they explore, in the tradition in which they are embedded and in the writing style in which the recount is written. Other differences have to do with the specific perspectives from which researchers conduct their research and the various roles they assume in the study. In this paper, I examine three genres of: (a) eductional connoisseurship and criticism; (b) ethnography, and (c) action research, focusing on their intellectual roots, characteristics, and methods.

Research in each of these genres can address fundamental gaps of knowledge in education. The understanding of the assumptions, methods, and contributions these genres make to the theory and practice of art instruction can help expand the boundaries of knowledge in art education research.

Educational researchers in America have increasingly come to value what researchers elsewhere have long emphasized: the personal and political nature of education. Part of this awareness is reflected in an increased interest in the unique circumstances of school programs. The classroom community and societal contexts have become more than abstract variables. The study of local, situated knowledge can be handled in a disciplined and scholarly way with qualitative inquiry.

Just as art and education trace their roots back across the centuries ultimately to the crude and custom-driven habits of societies, qualitative inquiry has its roots in the intuitive and survivalist behavior of early peoples. For ages people have operated on hunches and emotions, increasingly using those that brought them safety and satisfaction. Gradually we saw the wisdom of what we already were doing—observing, questioning, keeping records and interpreting, and respecting the experience and ruminations of others. Gradually we formed rules for study and names for our sciences. Art educators, too, increasingly drew from philosophers and social scientists to codify research procedures (Bresler & Stake, 1992).

Qualitative research is a general term which refers to several research strategies that share certain characteristics: (1) a *constructivist* notion of reality; (2) emphasis on *interpretation* of both the participants and the researcher; (3) a *holistic* way of approaching reality which is seen as time- and context-bound rather than as governed by a set of general rules; and (4) a highly *contextual* description of people and events (Bresler & Stake, 1992; Geertz, 1973; Lincoln & Guba, 1985).

The concept of reality is perhaps the most fundamental assumption from which each of the other characteristics is derived. Most qualitative researchers maintain that knowledge is a human construction. The aim of qualitative research is not to discover reality, for by constructivists' reasoning this is impossible, but to focus on different interpretations of that reality by constructing a clearer experiential memory which helps us obtain a more sophisticated account of things. Sophistication is partly a matter of withstanding disciplined skepticism. Though the comprehension we seek is of our own making, it is a collective endeavor (Bresler & Stake, 1992).

Researchers interested in the uniqueness of a particular act of teaching or learning find value in qualitative studies

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because the research centers around physical, temporal, historical, social, political, economic, and aesthetic contexts. At the beginning, middle, and end of a program of research, the researcher needs at times to concentrate on interpretive understanding (*verstehen*). The process of verstehen involves the ability to empathize, to recreate the experience of others within oneself. A related assumption in the qualitative paradigm involves the relationships of the researcher and the researched: the researcher is not seen as separate from the researched. To quote the famous Geertzian phrase, he is, like his fellow human beings, "an animal suspended in webs of significance he himself has spun" (Geertz, 1973). Because researchers are part of the reality they study, they can never be neutral. Instead, their goal becomes the "taming of subjectivities" (Peshkin, 1988), to be aware and conscious of their biases and prejudices and to monitor them through the process of data collection and analysis.

Within the qualitative paradigm there are several related approaches each with distinct disciplinary and intellectual traditions. These approaches differ in their aims, in the issues they explore, in the tradition in which they are embedded and in the writing style in which the recount is written. Other differences have to do with the specific perspectives from which researchers conduct their research and the various roles they assume in the study.

Each of these genres can address gaps of knowledge in education, and art education in particular. The understanding of the assumptions, methods, and contributions these genres make to the theory and practice of art instruction can help expand the boundaries of knowledge in art education research. In this paper, I examine the three genres of (a) educational connoisseurship and criticism; (b) ethnography; and (c) action research,[1] focusing on their intellectual roots, characteristics, and methods. For each genre, I present briefly its intellectual origin, and its main characteristics, in terms of goals, issues, and methods. Each discussion of a qualitative research genre is accompanied by a description of a study in arts education conducted in this mode. Educational criticism is illustrated by Tom Barone's evaluation of a secondary school arts program in a rural, Appalachian community. Educational ethnography is illustrated by Marjorie Wilson's study of communitas and peak experiences within a University setting. Action research is illustrated by Jim Bolton's study of his own classroom within a British secondary school. The paper concludes with a discussion of the commonalities and differences among these genres and their respective contributions to the theory and practice of art education research.

Art Criticism as a Methodological Model

Roots

The genre of educational connoisseurship and criticism takes its lead from the fine arts—the work that critics have done in the visual arts, literature, theater, film, and music. Elliot Eisner, who generated the term and the concept, came from the art studio and art education background. In his writing (cf. Eisner, 1979; 1991) he states that there is no area of human inquiry that epitomizes the qualitative more than what artists do in their work. "If we seek to know what qualitative inquiry consists of, we can do little better than analyze the work of those for whom it is a necessary condition" (Eisner, 1979, p. 190). Artists inquire in a qualitative mode both in the formulation of ends and in the use of means to achieve such ends. Another form of qualitative inquiry is found in the work of arts critics. The art critic aims to render the essentially ineffable qualities constituting works of art into a language that will help others

perceive the work more deeply, aiming to "lift the veils that keep the eyes from seeing" (Dewey, 1934, p. 324).

Eisner's conceptual framework draws on aesthetic theories, mainly those of Cassirer, Dewey, and Langer. According to Cassirer, science focuses on what is general and common across particulars, whereas art focuses on the unique characteristics of the particulars themselves (Cassirer, 1953). Eisner advocates the study of the unique as providing an empathetic understanding through vicarious participation in the lives of others. Qualitative works strive for the same goals.

A prerequisite to educational criticism is connoisseurship, the art of appreciation, which consists of "the ability to make fine-grained discriminations among complex and subtle qualities" (Eisner, 1991, p. 63). Connoisseurship is a private act, an act of recognizing and appreciating the qualities of a particular. Criticism, in contrast, is a public act, the art of disclosure. Connoisseurship involves a holistic approach and perceives things as they relate to each other. Classrooms, claims Eisner, are amongst the most complex subjects for connoisseurship. The researcher has to be sensitive to various dimensions such as the school, the teacher, the students, and the values that are regarded as important by the community.

Educational Connoisseurship

Eisner lists five specific dimensions that educational connoisseurs must consider: (1) the *intentional* dimension that deals with explicitly advocated aims formulated for the classroom; (2) the *structural* dimension—why the school is organized (e.g., how the school day is divided); (3) the *curricular* dimension—the quality of the curriculum's content and goals and the activities employed to engage students in it; (4) the *pedagogical* dimension including style, emphasis, tone, clarity, and modes of representation; and (5) the *evaluative* dimension—the way in which value judgments are made as manifested in testing as well as in the tone of voice, facial expression, and messages of support and enthusiasm about the quality of some object, situation, or process.

Data sources for educational connoisseurship include observations of teachers and classroom life, interviews with teachers, students, and other relevant people, and analysis of materials (e.g., instructional materials, student work, teacher-made tests, bulletins from school administrations, local newspapers, to better understand the context and history of the school and community). The role of the researcher as an educational expert is central to the study: Connoisseurship requires extensive prior experience in educational issues as well as familiarity with the educational situation. Hence, to develop connoisseurship one must have the ability to *perceive* subtleties in the area of human behavior, in the individual as well as institutional levels.

Educational Criticism

Eisner emphasizes four dimensions for educational criticism: *description, interpretation, evaluation, and thematics*. Description enables readers to visualize what a place or process is like: it should help them "see" the school or classroom the critic is attempting to help them understand. However, educational critics are interested not only in making vivid what they have experienced, but also in interpreting its meaning. In addition, they are committed to making judgments about the educational value of that which they study. Evaluation according to Eisner, is an indispensable part of the research since there can be no claim about the state of education without a conception of what is educationally virtuous. For Eisner, "Value-free evaluation," like value-free education, is an oxymoron. Unlike the so-called "detached observer" who attempts to simply describe, educational

critics have the task of appraising as well. "To describe students' work, or the processes of classroom life, without being able to determine if this work or these processes are miseducational, noneducational, or educational, is to describe a set of conditions without knowing if those conditions contribute to a state of educational health or illness (p. 71). The fourth dimension in educational criticism is the formulation of *themes* within an educational criticism—the identification of recurring messages that pervade the situation about which the critic writes.

An Evaluation of an Arts Program in an Appalachian Community

Educational criticism draws on the arts as a model for inquiry. In terms of *content* it can be used for program evaluation attending to educational phenomena in the arts. In this paper I chose to examine an educational criticism by Tom Barone (1983) of an arts program in the Appalachian Mountains of western North Carolina. Barone draws us into the story of the arts program within a rural community, a program initiated and operated by one person. Don Forrister, the arts teacher, is portrayed from close quarters, including background, attitudes, beliefs, appearance, daily schedule, and even his pickup truck.

When it comes to the portrayal of educators and educational practices, description, interpretation and evaluation interact. Evaluations are substantiated by descriptions of activities. Barone's use of metaphor is done to illustrate a point and enhance communication.

> Don is an art teacher—the only art teacher—at the school, and the old Smoky Mountains provide, in many ways, an apt metaphor for what he has accomplished here. Slowly, carefully, patiently, Forrister has succeeded in sculpting formless adolescent talents into aesthetic sensibilities of impressive maturity. Almost singlehandedly he has created a high school arts program that is not only outstanding, but (perhaps even more remarkable) cherished by both the school and county communities. Any such embrace is, we know, quite rare in an era in which the arts are often treated like (in Jerome Hauseman's phrase) "unwelcome boarders in a burgeoning household."
>
> "Hard-working" is the trait cited most often by Swain teachers and administrators. And a large measure of his success is due to his enormous investment of time and energy in the program. In class he is a blur of movement from student to student for seven class periods a day, and even, during some periods, from classroom to weaving room to darkroom. On closer inspection, the blur becomes a mosaic comprised of individual exchanges between Forrister and students, such as a mini-critique of a choice of subjects, a quick nod of affirmation concerning a color mixture, or a one-on-one demonstration of a new technique. An arts course consists of an untold number of such interactions, each a piece of an emerging pattern. And Forrister's dedication extends well beyond the school grounds and class time. He can be found on weekends escorting a group of students to an art exhibit in Asheville, consulting with an individual student on a photographic project and so on. (p. 16)

Barone's thick descriptions of landscapes, settings, people, and activities aid the readers' understanding of the situation and its context. These descriptions, whether of nature, school, or art, are not distanced, but are imbued with personal interpretations.

> . . . the same charmless modernity, the refreshing lightness of the glass and brick, the airiness of the pleasingly massive open chamber that dominates the heart of the building and serves primarily as a reading area and media center. But a startling difference, so crucial to our story, becomes vividly apparent as one's eyes move inevitably to a boldly executed (and placed) 5' by 5' abstract expressionist painting on the brick wall near the lobby to the administrative offices. And in several other spots—from the cloth wall-

> hangings (stuffed tubes intertwined playfully into serpentine knots) that dangle above the stairwells, to a remarkable set of drawings displayed near a side entrance (including a carefully composed and brilliantly colored still life of red and green apples)—there is art. To be sure, space exists from many more pieces, but the presence of any student artwork of such quality adorning the inside of a high school is unusual and exciting. They serve to whet one's appetite for learning more about these students and their Arts program. (pp. 2–3)

Barone's criticism is holistic, weaving themes relating to curriculum, teaching style, community values and its economic conditions, to name only a few, as they interrelate and interact with each other. To develop a discussion on the merits of the program, Barone raises "classical" issues from the fields of aesthetics (e.g., the roles of technique and creativity, expression and self-expression in creating a work of art), curriculum (e.g., variety of educational and artistic goals) and pedagogy (e.g., the use of intrinsic versus extrinsic motivation). The development of these themes draws upon a wide range of scholars and writers, from a variety of fields.

The intentional, structural, curricular, and pedagogical dimensions are central to educational criticism. Barone's text highlights explicit as well as implicit messages. Intentions are perceived in goals as articulated in school booklets, in interview statements, and in conversations with the instructor and students. The curricular and pedagogical are seen through observations of the instructional process.

Data sources include observations of teaching, interviews with teachers, parents, students, and administrators, and analysis of materials like the local newspaper and school bulletin. Students' engagement with their art and their attitudes toward art are crucial to the operation, effect, and the meaning of the arts program. Based on close observation of students in their art work, for example Barone notes:

> One can observe in this process a dialogue between the student and the materials being shaped, a qualitative problem-solving process in which the student/worker/artist struggles with possibilities, tentatively moves upon the material, encounters resistance, manipulates the component parts. For example, at one point in "working" on his paper collage, Jim incorporated some torn pieces of white paper above the head of the woman in the rocking chair, hoping to achieve a daydreaming effect. The "Product," however, spoke back to him: "Perhaps too bright, distracting the eye from the central figure." Jim listened, reconsidered, added a more yellowish cast that reflected the woman's sallow facial tones, and that skirmish ended successfully. (p. 13)

Art education programs are embedded within specific communities with distinct values, cultural, and economic conditions. Understanding this community is key to the understanding of this program. Barone examines the role of the arts and craft in community members' lives:

> A great many people work at crafts as a hobby or a vocation and a growing number are becoming craftsmen and producing crafts as a vocation. For some, craft work is an "alternative" vocation which the craftsmen prefer above the nine-to-five job. For others it is their sub-occupation and expression of their art for which the benefits can seldom be calculated in dollars and cents. (p. 10)

Educational criticism draws on empirical as well as theoretical literary scholarship. References include scholars from the field of arts education, and educational and curriculum theory as well as philosophy and literature. The following excerpts are representative of other educational criticism in their allusions to literacy sources:

> In evidence here are, no doubt, some of the qualities that Carol Kennicut, the pro-

tagonist of Sinclair Lewis' Main Street, found so dismaying in turn-of-the-century Gopher Prairie, Minnesota: perhaps a self-satisfied provincialism in values and mores, certainly a cultural bleakness that even rules out most forms of public entertainment (save a games arcade and one "last picture show") (p. 3).

As Wordsworth saw art, it is "emotion recollected in tranquillity." But according to the expressivists, this recollection is also a publication: a work of art is a transmutation of personal feelings and imagery into a unique sensible form—an objectification of the subjective. Objects of art, said Langer, articulate and present "ideas of feelings" for our contemplation. (p. 10)

To what extent is the study representative of other situations? The kinds of generalizations that are aimed at by qualitative researchers are fundamentally different from the ones in the quantitative paradigm (Eisner, 1991, pp. 198–212). Barone refers to that issue explicitly in the very beginning:

> Even though the Swain County story is, in many respects, a singular one, I believe that we might learn from its telling much that is pertinent to the general survival and flourishing of the arts in our schools. (p. 2)

The study starts with the geographical and physical environment and narrows down to the specific setting, teacher, and students. The end brings us back to a macro level pertaining to the larger community and American lifestyle.

> How much, for example, would the people of Swain County value a program—even an award-winning program—that served, in their eyes, no "useful" purpose? Even in this region steeped in a tradition of folk art would there be widespread and sustained enthusiasm for a program that educated solely for "worthy leisure time activities" or "aesthetic appreciation"? My hunch is that the American-style pragmatism of these economically distressed people would ultimately deem such a program frivolous and of low priority. (p. 19)

In his educational criticism Barone paints a vivid and complex picture in the issues it raises. Portraying eclectic educational goals, it provides a multi-leveled interpretation about what constitutes "success" in teaching art, both in school and within the specific community. Barone's descriptions and interpretations serve to illustrate the ways in which this program is successful, effective, and popular. The writing style combines scholarship with aesthetics. It can be read as a "work of art," stimulating and deepening our perceptions, thoughts, and feelings about issues in art education.

Following an Anthropological Model: Educational Ethnography

Ethnography refers to the thick description and interpretation of culture or some aspects of culture. Products of anthropological research, ethnographies aim to recreate for the reader the shared beliefs, practices, artifacts, knowledge, and behaviors of some group of people. Ethnography has undergone several distinct stages (Denzin, 1994; Rosaldo, 1989, pp. 25–45). Denzin divided the history of ethnography into the following "moments:" (i) the traditional period, (1900s–1940s) which lasted until World War II, was concerned with "objective" accounts of field experiences. Primary concerns were validity, reliability, and objectivity in writing; (ii) the modernist period (1940s–1970s) extended through the post-war years to the 1970s. Here ethnographers and sociological participant observers attempted rigorous, qualitative studies of significant social processes; (iii) the third period (1970s–1980s) which "erupted" in 1973 with Clifford Geertz's *The Interpretation of Culture*, ushered such genres like hermeneutics, feminism, constructivism, structuralism, and post structuralism; (iv) the fourth (1987–1990); and (v)

the fifth (1993–) which destabilized everything, making writing and research problematic in ways that had never before been imagined. These different styles co-exist simultaneously with each other (Denzin, 1994, pp. 16–17).

Criteria vary among the different "moments" of ethnographic research. However, the close examination of practices and behaviors of a group implies that ethnography is field oriented. McDermott (1977) emphasized the emic perspective by suggesting that an ethnography should account for the behavior of people by describing what it is that *they* know that enables them to behave appropriately given the dictates of common sense in their community. Thus, the researcher aims at getting immersed in the culture, striving to balance "outside-inside" issues and interpretations. The tension between outside and inside perspectives is addressed differently in each of the "moments" and is discussed extensively in the scholarly literature. As Wolcott (1988) pointed out, "the ethnographer walks a fine line": With too much distance and perspective one is labeled aloof, remote, insensitive, superficial; with too much familiarity, empathy, and identification, one is suspected of having "gone native." Successful ethnographers, says Wolcott, resolve that tension between involvement and detachment; others go home early.

As a result of the tension, the issues presented in an ethnography are a combination of emic (insiders) and etic (researchers). The requirement to maintain an outside perspective implies that ethnographers usually examine other cultures rather than their own. When the study is that of a culture to which the researcher belongs, there is a deliberate attempt to notice everyday events in a fresh light. The issues are progressively focused and the direction of the issues and foci often emerge during data collection and analysis.

James Clifford refers to the concept of "heteroglossia," coined by Bakhtin, that implies that culture and society, as well as individuals, are constituted by multiple voices (Quantz & O'Connor, 1988). Quantz and O'Connor write that the concept of heteroglossia recognizes the multiple dimensions of cultural life and is, therefore, an important corrective to static, unified conceptions of culture. It legitimates difference of opinion and restores for theorists the individual's voice in the creation of their cultural patterns. In this view, culture is seen "not as a super organic entity demanding obedience; rather, it is a world full of unique individuals, each expressing personal views within their cultural interactions" (Quantz & O'Connor, 1988).

Spindler and Spindler (1987) summarize the criteria agreed upon by most for good ethnography:

1. Observations are contextualized, both in the immediate setting in which behavior is observed and in further contexts beyond that context, as relevant.
2. Hypotheses emerge *in situ*, as the study goes on in the setting selected for observation. Judgment on what may be significant to study in depth is deferred until the orienting phase of the field study has been completed.
3. Observation is prolonged and repetitive. Chains of events are observed more than once to establish the reliability of observation.
4. The participants' view of reality is attended through inferences from observation and through the various forms of ethnographic inquiry (including interviews and other eliciting procedures).
5. Some of the sociocultural knowledge affecting behavior and communication in any particular setting being studied is implicit or tacit, not known to some participants and known only ambiguously to others. A significant task of ethnography is therefore to make what is implicit and tacit to informants explicit.
6. Since the informant (any person being interviewed) is one who knows and who has the emic, native cultural knowledge, the ethnographic interviewer must not predetermine responses by the kinds of questions asked. The management of the

interview must be carried out so as to promote the unfolding of emic cultural knowledge in its most heuristic, *natural* form.

7. Any form of technical device that will enable the ethnographer to collect more live data—immediate, natural, detailed behavior—will be used, such as cameras, audio tapes, videotapes, and field-based instruments (pp. 18–19).

Participant observation in fieldwork is a key method. It allows the ethnographer to establish the kind of rapport necessary to obtain certain information she/he would not otherwise be privileged to get, and to collect data on people's behavior or about events in their natural setting. Other techniques include the use of interviews, questionnaires, documents, audio taping and videotaping.

Roots

As Ogbu points out (1985), the academic history of educational anthropology is short, because anthropologists did not initially regard formal education or schooling as a subject for serious intellectual pursuit. Many of the societies traditionally studied by anthropologists did not have institutionalized schooling as we recognize it (Roberts, 1976). The aim of many of these early ethnographies was to make anthropological knowledge about culture and its transmission available to educators and policy makers dealing with "native education" in colonial societies as well as among immigrants and minorities in their own societies. It was not until the 1950s that some anthropologists had begun to study schools. George Spindler and Jules Henry who came from culture-and-personality perspectives were two prominent pioneers in the field. They viewed education as a form of cultural transmission of which schooling is only one particular form (Singleton, 1974).

The climate of the 1970s, where alternatives to traditional, quantitative research were called for, led to an increased interest in the sub field of educational anthropology. Educational anthropologists wanted to apply anthropological methods and concepts to the study of educational institutions and processes (Ogbu, 1985). Their interest was not only for intellectual understanding of educational phenomenon but also for practical application to educational problems.

Educational anthropologists want to apply anthropological methods and concepts to the study of educational institutions and processes. This involves activities at several levels (Ogbu, 1985). One level is ethnographic description based on direct observation and an intimate understanding of the participants' point of view. Another is the analysis of the ethnographic findings about particular substantive issues, such as cognition, language, communication, roles and identities, rituals, and social control within their sociocultural context. Still another is what Michener (1974; in Ogbu, 1985) calls *integrative synthesis* or theorizing about educational processes based on adequate ethnographic descriptions and analyses of specific cases. The work at this level is largely comparative.

How do these characteristics apply to the practical field of arts education? The following example provides an illustration of some of the methods used, as well as the kinds of knowledge we can construct.

Ethnography in a University Setting: Communitas and Peak Experiences in an Art Course

In her study, Marjorie Wilson (1972) was interested in exploring peak experiences within university settings. Wilson was intrigued by a situation in which she found herself when she went to art school in the late 1940s. The student population was a peculiar mix of World War II veterans and recent high school graduates. Wilson experienced this as a highly charged, almost "magical" situation from

which had emerged what appeared to be an inordinate number of people who went on to become distinguished in the field of art and art education. She wanted to understand more about the dynamics of that situation. Turner's concept of "communitas"—defined as the "direct, immediate and total confrontation of human identities" (Turner, 1974), captured for her these qualities. Her formulation of the issue at the very beginning of the ethnography portrays a moment of revelation, almost an epiphany, which provides the motivation for the study.

Her report begins with a poem and a description of an experience:

> The art of pottery
> is of all arts
> the one that fuses together
> in indestructible unity
> earth and heaven,
> matter and spirit.
> —Sir Herbert Read

> Every so often there occurs, in the life of a teacher, a moment of revelation. This manifestation may not be of heavenly origin but it is nonetheless a message, a sign, as it were, when he knows, without doubt that this is what teaching is about. Or it may be an entire day when everything falls into place. It's not necessarily the day on which all of the students miraculously attack their assigned tasks with unaccustomed vigor for this is not only unusual but not altogether desirable. It might simply be the day when all conflict is resolved, when there is a certain atmosphere that pervades the room, when students discuss in an unself-conscious and intimate way the stalking of lost cats, the vagaries of parochial school and the goof of the health teacher—referring to the orgasm as an "organism." Individuals begin to identify with others in the class and there is a coming together, a becoming. Production increases but one is not sure that this is really the important outcome; a feeling has been generated, a humanness achieved—one is able to be truly his "self" here in an oasis in the vast desert that is the school, with its rules, schedules, restrictions, with its staying within the lines.
>
> To what may we attribute this coming together, this sense of community? We are given a glimpse, however fleeting, of the phenomenon which Victor Turner terms "communitas," a "direct, immediate and total confrontation of human identities" (Wilson, 1972, p. 2).

The theme of communitas is an unusual one in western literature which does not typically address the vocabulary of consiousness. The focus on such concepts as peak experience and communitas in educational settings opens up uncharted territories which carry significant implications to the learning and teaching of art education.

Educational settings come in many shapes and forms. Formal schooling is the most prevalent setting and the one studied most. However, the study of alternative settings can provide a frame of reference to the more traditional ones. In her study, conducted in the early 70s, Wilson examined a situation within a university setting, yet which lies outside of a regular university structure, in which the quality of experiences is changed and intensified: Kenneth Beittel's summer ceramics class and its culminating activity—wood-firing. The class stressed the traditional Japanese method of throwing bowls and the ash glaze deposits from the wood-firing. The notion of the Japanese tradition was established early and carried on throughout the term so that "a pitch had been reached when the actual wood-firing was to take place" (Wilson, 1972, p. 5). Within this framework, Wilson focused on the concept of rite of passage, the part played by ritual and tradition, the idea of an interaction of "communitas" and the play element inherent in the situation, examining the physical setting as providing a focal point for the entire body of inquiry. Wilson provides a context in which this event had taken place, by her own observation as well as others. Themes encompass contents and goals historical context for

the Japanese ritual, students' participation in and attitudes toward the course.

Methods included open-ended and semi-structured interviews and conversations with the participants; and participant observations for the four days of the wood-firing event. The observations encompassed the whole cycle of the event (though, admittedly, four days is an extremely short time compared with the time invested in most ethnographies. Because Wilson was an "outsider" in the traditional sense of the word, she had access to the beliefs and views of her studied population. Her problem became the reverse: "making the familiar strange" (cf. Bogdan & Biklen, 1992; Hockey, 1992). Documentation consisted of field notes, containing thick descriptions of people, activities, and landscape, as well as the researcher's interpretation of the event. Data sources also included historical information on the heritage of Japanese ceramics:

> The qualities that Beittel and Steele found so desirable and which they attempted to replicate are described by Koyama as existing in an old Bizen pot dating from the Kamakura period (1185-1336). It was found to be sturdy in form "and the potting of the hard fired body is rough and vigorous, while the white streaks of natural ash glaze on the shoulders confer a special air of distinction." A later Bizen piece is noted by the same author to contain "happily placed shadows where the flames of the kiln scorched its rough surface." (Koyama, 1973; in Wilson, 1972, p. 3)

The theoretical framework was based on Turner's notion and definition of structure, anti-structure, and communitas. Wilson also uses relevant theories and literature from humanistic psychology, art, art education, anthropology, and eastern philosophies. These are interwoven in the text to develop a particular issue or theme.

Wilson examined the quality of space and time: a transition from the confines of the university structure of the classroom and its schedules, to a remote wooded setting complete with communal meals, firelight, summer showers, and the peace of a week in which students are seen to be working, playing, and eating together—engendering components of communitas. The following is an example of a description of the event:

> At some time before dawn on the third day of firing after a final heroic push to complete the firing cycle, involving a frenzied effort to bring the kiln up to final temperature, there was a last and weary throwing of more and more wood into the last chamber.
>
> Both those who were doing the throwing and those of us who were observing at close range were assailed by the intense and searing heat of the fire and the almost blinding light that caused the flame to form halo upon halo of flame, the created as intense and blinding as the creator. Minutes later, having retreated from the violence of the fire, we found ourselves surrounded by the black of the darkness rivaling the brightness of the flame, and by the coolness of the early summer morning with its sharp contrast to the white heat of the moment before. Before us, the square of brilliant orange, going beyond orange, stood as a spirit disembodied in the black void. It appeared to envelop and consume until the very breath was taken away—an instant, a brief moment of intoxication and the moment merged with the total event, became a small part of a larger whole. C. S. Lewis (1955), in speaking of the days of his childhood evokes a feeling that might characterize the period of the wood-firing:
>
> This was really a period of ecstasy. It consisted chiefly of moments when you were too happy to speak, when the gods and heroes rioted through your head, when satyrs danced and Maenads roared on the mountains, when Brynhild and Sieglinde, Dierdre, Maeve and Helen were all about you, till sometimes you felt that it might break you with mere richness. (pp. 16–17)

Findings highlighted a variety of ex-

periences demonstrating the loss of all sense of time and space. Interviews revealed that the ritual meant different things to different people: intense and immediate peak experience for some, sustained experiences for others. The study portrays the variety and richness of experiences without explicit evaluation. Wilson reports that in the experience of wood-firing, this "cosmic consciousness," the feeling of being as one with an object was omnipresent, as well as that of being as one with the event and with those involved in the event. The peak experience then became, in many instances, not only that which was experienced in the course of communitas, but also a part of the total experiencing (p. 15–16). Wilson used Turner's frame as a means of interpreting her own, as well as others' experiences. She provided an analysis and interpretation of the wood-firing as a single learning experience which, occurring outside of structure, contained some of the elements and the appearance of communitas. Throughout this entire activity, the idea of tradition and of ritual, in the Japanese tradition was in evidence.

Wilson characterizes the firing-as-communitas with many "highs" so that in retrospect these are what one remembers most and the low points seemed to be absorbed into the larger whole, giving the appearance of one sustained experience, while the peak experience is at once more intense and immediate, flavoring the greater event with an added richness.

As Denzin (1994) has noted, the range of voice and writing style of ethnographies is wide. This one is personal, naturalistic, often impressionistic, communicating dramatic and vivid pictures from the field, weaving personal memoirs of the field experiences. The report contains "data" in the form of long excerpts from field notes and excerpts from interviews to substantiate interpretations. Wilson points out that this kind of research fits not only the questions that she was asking about art education, but her own style, so that metaphor and the kind of (often poetic) writing in the "voice," called for by qualitative studies were particularly suited to her.

Implications

Wilson's study raises questions rather than providing definitive answers. Is it possible for situations having elements of communitas to exist in schools at all? How much anti-structure is enough? How do these feelings differ from those generated in schools that comprise total communitas such as the Bauhaus or Black Mountain? Does this paradigm case hold the key to the creation of elements of communitas in schools, if indeed these situations can be created? The description of experiences and environments provide one vivid example to the power of communitas. Wilson concluded that perhaps too much emphasis in schooling has been placed on "the vessel" and too little on the "space within."

What are the implications of this work for the field of arts education study? One of its contributions is that it has raised the field's consciousness of this important phenomenon. Reading this study, one wonders about the existence of communitas in other settings: Barone's Appalachian high school, the schools where we teach and learn, schools in other countries and other cultures. The emphasis on affective dimensions of education acknowledges the many facets involved in any kind of academic learning. The issues focusing on individual and shared experiences, and the reconstruction of a cultural scene in educational settings are rarely raised or discussed within the scholarly literature. Thus, the focus on the dimensions of communities and peak experiences illuminates unchartered facets of educational experiences that are commonly not attended to. The close scrutiny of an emic perspective provides us with a view toward

the "experienced curriculum" (Goodlad, Klein, & Tye, 1979).

Action Research: Understanding One's Own Practice

Action research is the study of one's own practice in order to change and improve it. If the central point of educational criticism is program evaluation and of ethnography is culture, action research is based on the close interaction between practice, theory, and change. The goals of action research in education are the deeper understandings of teachers' own educational practices and the institutions in which they operate. Intervention is an explicit goal and is often part of the research methods (thus, action research is typically not naturalistic). Action research shares with educational criticism an emphasis on pragmatic motivation since it is concerned with evaluation and improvement rather than a "pure" understanding as its primary goals. However, unlike educational criticism, the researcher in action research is an insider. His/her primary area of expertise is in their practice ("Knowing how") rather than a largely theoretical one ("Knowing about"). Thus, a key distinction between action research and the other qualitative genres are the identity, role, and expertise of the principal investigator. Ethnography and educational criticism are usually conducted by academics, whereas an action researcher, is typically a teacher (often in collaboration with a university faculty member).

Roots

Action research can be conducted by any practitioner interested in his or her own practice, including artists, nurses, doctors, lawyers, administrators, and teachers (May, 1993). Hult and Lennung (1980, in Wallace, 1987), identify three distinct traditions for action research: the field of community relations, the functioning of organizations, and schooling. All areas reflect the growing interest in the U.S. in the application of scientific methods to the study of social and educational programs and in the study of group dynamics (Wallace, 1987). Collier (1945), who reputedly coined the term, used it to describe a collaborative enterprise where research contributed to the improvement of American Indian farming practices. As Commissioner for Indian Affairs in the 1930s, Collier developed an explicitly democratic approach whereby a partnership of administrators, scientists, and lay people attempted to improve the effectiveness of their social planning. Collier used research to inform action aimed at improving the quality of life for the Indian community, "claiming that research should be evoked by the needs of action, should be integrative of many disciplines, should involve the administrators and the laymen, and should feed into action" (Wallace, 1987, p. 99). Collier demonstrated through case histories that when scientists, administrators, and lay people worked together to respond quickly to real needs, more was learned and found useful than he believed would have been the case through detached, specialized science which did not involve all partners.

Action research was further developed by the social psychologist, Kurt Lewin (1946), in the form of "change experiments" where community workers were trained to collaborate so that they would overcome their sense of isolation in the field and become more effective in promoting harmonious relationships between different ethnic groups. Lewin and his students conducted quasi-experimental tests in factory and neighborhood settings to demonstrate, respectively, the greater gains in productivity and in law and order through democratic participation rather than autocratic coercion (Adelman, 1993). Here, action research draws on the quantitative paradigm using a va-

riety of methods including experimental and descriptive methods.

Like ethnography, action research has undergone several distinct stages (King & Lonnquist, 1992; Noffke, 1990). Earlier studies were quantitative and positivist. *The Reflective Practitioner,* by Donald A. Schon (1983), signaled a new era in his inclusion of teacher research under the umbrella of reflective practice, thus legitimizing the knowledge teachers use in their daily practice (King & Lonnquist, 1992). One of the differences between traditional quantitative action research versus practitioner-centered action research is their respective emphases on theory. The former aimed at generating theoretical valid social theory, whereas the latter claimed that action research not worry about the canons of traditional science and scholarly criteria. Instead, it aimed to create "practical theory" that comes from practice and that makes sense to other practitioners.

The work that Lawrence Stenhouse, John Elliot, and Clem Adelman did in the U.K. was compatible with Schon's notions and gave teachers (and often their students), an active role in creating their own classroom knowledge. This resulted in a number of collaborative efforts in the Humanities (Stenhouse, 1975; Rudduck, 1988; Elliot, 1991; Elliot & Adelman, 1976); as well as in the arts (Treacher, 1989).

Within action research there are several distinct views about *what should be* critiqued and examined. Noffke (1992) notes that over the past 15 years, action research has played a significant role in discussions of the improvement of teaching and teacher education. She also refers to the diversity of visions within action research, especially in relation to the nature of teachers' work and the workplace. She points to the various conceptions of teaching and the place of action research in it which are implicit in works advocating action research by pre- and in-service teachers. For example, some advocates see the central concern for action research as the development and the diffusion of an adequate knowledge base for the establishment of teaching as a profession whereas, for others, the focal point is empowerment, part of a movement toward a more decentralized system of educational decision-making and responsibility. For still others, the outcome of action research is personal fulfillment in one's work whereas for another group the intent of action research is to connect the work of teachers to issues of social, economic, and political justice that are considered as embedded in the practices of teaching (Noffke, 1990).

Wanda May (1993) summarizes underlying assumptions in action research which reflect particular epistemological, professional, and sociopolitical interests. Epistemological interests include beliefs for how knowledge is best communicated (e.g., discursively and/or nondiscursively). Professional interests refer to one's view of teachers and university researchers and their perspective roles, expertise, and work. Sociopolitical interests refer to the larger institutional and social contexts in which research and its potential use and misuse are embedded (May, 1993). May discusses several potential problem areas in the conception, purpose, conduct, and use of action research and their specific manifestations in studies of arts education. These problems include: (i) a too narrow vision of action research, imposing inappropriate structures, criteria, and methods on teachers' thinking and projects; and (ii) teacher educators who do not engage in reflective inquiry of their own practice and, therefore, cannot offer much guidance for students.

With a few exceptions, (e.g., Manigo, 1991; Marcus, 1991),[2] it is mostly in the United Kingdom, Australia, and Canada that qualitative action research has been conducted (e.g., McTaggart, 1991; Treacher, 1989). In Australia, studies in education and the arts have been launched as a series of monographs and collected papers focusing on research and theoretical investigation in the area

of teaching in arts education. The series, which is in its beginning stages, is designed to "embrace a wide range of perspectives and will include studies undertaken within the individual art forms of dance, drama media, music, and visual arts education, as well as studies which adopt a more holistic approach to concepts which cross these arts forms" (McTaggart, 1991, p. i).

In the following section I examine an action research study, conducted by Jim Bolton, a visual arts teacher in a secondary British school. The project used collaboration, drawing on the perspectives of "insiders" (a teacher who is the principal investigator, students, and artist-in-residence), as well as an "outsider"—the project coordinator.

Action Research of Art Education in a British High-School

Action research is often initiated as a response to a specific problem aiming to enhance one's knowledge in order to change the situation. In this case, the problem was Bolton's dissatisfaction with his curriculum and the quality of the informal and formal assessment procedures operating in his classroom. The school emphasized design, the making of marketplace products, and what Bolton perceived to be a rather narrow emphasis upon skills-based and product-focused tasks. Bolton was troubled by what he perceived to be the domination of the examination system. In his view, the system with "its thirst for easily marked products" had narrowed the variety of roles consonant with artistic activity: observer, critic, doer, and appreciator (Bolton, 1989).

Bolton was interested in examining the so-called divisions between private self-expression and public communication, between personal feelings and reference to the work of others, and between subjectivity and objectivity. His ultimate goal was to broaden the skill-based and product-focused curriculum to enable pupils to become more critically aware and sensitive to their own work and that of others through more contemplative and reflective approaches to art making.

Action research is grounded in teachers' intimate knowledge of the classroom. As a form of disciplined inquiry (Cronbach & Suppes, 1969) it also requires careful documentation that could be shared with other members of the educational community. In this study, data sources included field notes of 19 sessions, each consisting of two forty-minute periods, monitored through a period of six months. Bolton photographically recorded students' working processes, tape recorded sessions, and interviewed individual students. He constructed pupil profiles based on these interviews, on his observations, and on students' diaries and self-written notes about their work. He also drew on notes and data gathered by Veronica Treacher, the Project Coordinator-Originator, who regularly attended his class to make observation notes and to conduct interviews with individual pupils.

The report (Bolton, 1989) describes in detail the curriculum: the choice of contents and materials, the information presented to the students about the artwork and the motivation behind it, the methods used and the specific student population under study. Bolton discusses technical problems in conducting the research (e.g., positioning the tape recorder in such a manner that students voices were unclear) as well as curriculum and pedagogical issues: the contents of conversations and discussions in the class, including tone and student involvement in the lesson. Bolton's report contains dozens of photographs of artwork discussed in the class as well as students' own work. The report is organized around the individual sessions (e.g., Session Number 1, Number 2, etc.) describing research methods and classroom events. The teacher's interpretations and self-

evaluation are interwoven throughout the report.

When applied to arts education, action research focuses on issues specific to arts instruction as well as issues generic to teaching. As Bolton examined his data he discovered gaps between his aspirations and practice. His role as a facilitator and instructor in a group of 21 precluded the follow-up in the practical sessions that he would have wished. Given his intentions in introducing the curriculum, for example, most of those responses that he elicited had been brief and fragmented; many of the students were copying rather than re-creating the African masks. Bolton chose the masks activity because of their presumed accessibility to students. However, they proved to be as foreign to students' experiences as the Rembrandt reproductions he had used earlier. The process of becoming aware of some of these problems prompted Bolton to make changes in the curriculum. He concluded that rather than giving the pupils further experience of "product," he would have to provide them with the opportunity to study an artist's process first hand. After an extensive search he found an artist-in-residence who was able to incorporate some of his visions. The report presents a description of the class sessions with the artist as well as her impact on the curriculum and on students' work. Thus, the study was conducted in several distinct cycles.

The final section, "reviewing the residency," dwells on such categories as the impact of the collaboration with the artist-in-residence focusing on such issues as the use of materials, structure, professionalism, demystification of the artistic process, and students' freedom. The process of collaboration with the artist-in-residence led Bolton to surrender the traditional stance of "the one who knows" to one based on real collaboration with the pupils (p. 93).

The central concern in this study, as it is in many other action research studies, is the development of an adequate knowledge base for improving one's curriculum. One of the key effects was the teachers' enhanced perception of his educational practices, which led to an enlargement of his educational options and that in turn, to a wider range of decision-making. An important side effect was the teacher's enhanced personal satisfaction.

The study stemmed from a particular problem within a specific context. However, the findings are transferable to other situations, raising fundamental curricular, pedagogical, and structural issues. The writing emphasizes clarity and description of details to facilitate transferability. The implications to theory are implicit rather than explicit. The primary concern is the immediate improvement of the teacher's practice and the communication of his experiences and findings to others in similar positions.

Discussion

The three qualitative genres examined in this paper share some basic assumptions, goals, and methods. At the same time, they differ in their emphases, specific aims, the kinds of issue they explore, their unit of analysis, and writing styles of the report. In this discussion I reflect on some of these similarities and differences among the genres and their implications for arts education.

Constructivist Perspective

All qualitative approaches manifest a transition from objective to constructed (and, therefore, multiple) realities. They reject "naive realism" namely, the assertion that there is one tangible reality, which we can fully and objectively know. Instead, they claim that social reality is always constructed from a particular vantage point, a particular perspective (Lincoln & Guba, 1985, p. 83). This means that any one focus of observation gives only a partial result: no single discipline

ever gives us a complete picture (Schwartz & Ogilvy, 1979, p. 15). However, the *particular* point of focus from which the researcher conducts the study in each genre varies. In educational criticism the researchers are typically outsiders to the setting, and are experts well versed in curriculum and educational theory as well as in the practice of art education. In ethnography, too, the researchers are outsiders to the sub-culture they study. However, in their immersion in the setting, they often assume the role of participants, striving to gain a deeper understanding about the perspectives of the insiders. In action research the researchers are not only participants and insiders, but they play a central role in shaping the educational setting which they study. Indeed, the research is conducted for the explicit and immediate purpose of change and improvement which the teacher/researchers, as key agents, can effect.

Collaboration

Whether as an outsider or an insider, the researcher is a major instrument in the research project in all qualitative genres. As an "outsider," she/he attempts to understand inside perspectives. As an insider the goal is to gain depth and breadth by incorporating other points of reference. This quest for multiple perspectives requires the use of collaboration. The different roles the researcher assumes in the study shape the types of collaboration involved. Educational criticism and ethnography draw upon the members of the community to share their beliefs and perceptions with the researchers. Action research often draws upon observations and data sources gathered by an "outsider." It frequently incorporates students' perspectives as reflected in their own diaries, in interviews, and conversations with them, and on close observations of their activities and discourse. In addition, the existence of a supportive "outsider" allows the teacher, who is typically isolated in a classroom, to voice and reflect upon his/her opinions, ideas, and beliefs. The availability of a forum for discussion on classroom issues and an audience promotes the teachers' gaining of a new, deeper understanding.

Mutual Reflexivity

The qualitative paradigm views reality as complex, diverse, and interactive. It is impossible to abstract one or a few elements while holding everything else "constant" (Schwartz & Ogilvy, 1979). For example, in the above mentioned studies by Barone, Wilson, and Bolton, the operational curriculum is the result of interaction of the characteristics, beliefs, and background of the students and instructor, as well as the values, characteristics, and goals of the educational setting. The view of complex reality implies a move from a simple linear model toward a model of mutual shaping, where the distinction between cause and effect is blurred. This latter model is nondeterministic and highlights the simultaneous influencing of factors over time in such a way that it is no longer relevant to ask which caused which (Lincoln & Guba, 1985, p. 54). All qualitative approaches assume that there is more to education than the product (the product being an award in a competition or test scores). What is important is the *process* of teaching and learning, and the process can be understood by examining the contexts in which the teachings and learning take place. The researcher provides a detailed description of these contexts, to facilitate readers' transferability of the findings to other settings.

Role of Theory

Each of these orientations places different emphasis on the role of theory in the study. Ethnography is conducted for the purpose of expanding theory and under-

standing which, hopefully, will contribute to educational practice. Its immediate audience is the scholarly community. Theory plays a key role in the presentation and development of the issues, the interpretation, and in the discussion. In action research, theory is secondary. The immediate purpose is toward the improvement of the local practices of the specific teachers. Educational criticism combines both: its goal is pragmatic—program evaluation, but theory is regarded as an important part of the evaluation.

Writing Styles

Writing styles vary among different communities. Each interpretive style places its own distinctive stamp on the text's treatment of experience, the world, the subject, the author, and the reader (Denzin, 1994). Educational criticism, for example, often reads as a literary piece using metaphorical and sophisticated language to achieve a powerful communication. In contrast, action research is typically prosaic in style, containing detailed activities and problems encountered during the study. Audience and purpose are important factors in shaping tone: unlike many ethnographies and educational criticism that address the larger scholarly community and hold refereed publications as an external standard for excellence, its immediate audience is local—the teacher and the collaborative group involved in the study. In many cases its results are not published beyond the community that participated in the study, except to the extent that a theorist involved might base publishable theory on what was learned, in which case the action research has generated traditional social science theory, rather than something distinct to its process (King & Lonnquist, 1992). Because action research studies are not as concerned with the legitimization of the scholarly community through refereed publications, the writing style is less theoretical and less academic. Consequently, the criteria that have to do with the writing and the organization of the work that are central in ethnography and educational criticism (Eisner, 1991; Lincoln & Guba, 1988) are less important in action research, where understanding serves action rather than being an end in itself for its own sake. Elegance and sophistication of writing are secondary to clarity of findings and relevance to someone's own teaching.

Writing styles can also be characterized by their relative emphasis on description, interpretation, and evaluation. Ethnographies attempt to portray and understand the studied culture on their own terms by providing thick description and incorporating insiders' interpretations (often in the form of extensive quotations) into the manuscript. They refrain from evaluations which are typically viewed as ethnocentric. In contrast, educational criticism regards evaluation as a central goal of the report which is informed judgment about the merit of the program. Similarly, in action research description and interpretation are in the service of evaluation since the primary goal of conducting the study is toward the improvement of practice.[3]

The use of the qualitative paradigm allows the exploration of issues that are at the core of teaching and learning of art education. Educational criticism is instrumental to the evaluation of arts programs based on understanding of explicit and implicit school and community values. Ethnographies can be a powerful tool in exploring the insiders' practices and experiences as they are articulated in their own voices. Through action research we learn about the improvement of one's teaching and practices within a particular art education classroom or building. Here, as in the other qualitative genres, the local issues are often transferable to other settings. Not least important is the modeling of a quest to gain a critical perspective on one's teaching to facilitate change. All of these genres contribute to the theory and practice of arts education in areas that are barely

explored, yet fundamental to the teaching and learning of art.

Notes

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1. These are only three out of various qualitative genres chosen for their contributions to the field. Other approaches include critical theory, phenomenology, symbolic and interpretive interaction, ethnomethodology, protocol analysis, formative research, and feminist research.
2. Conducted under the auspices of the National Arts Education Research Center at New York University; funded by the National Endowment for the Arts and the U.S. Department of Education.
3. It is important to point out that even though ethnographic studies are initially concerned with "understanding for its own sake," when conducted within the context of art education, they are often regarded as a tool to foster pedagogy. Indeed, one could argue that all educational research is ultimately concerned with the improvement of teaching and learning and that educational theories should serve educational practice.

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Idea-Keepers: Young Children's Drawings and Writings

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Abstract

Drawing, writing, and talking are ways children choose to explore, clarify, and document their interests, speculations, and ideas. Sometimes these ways appear to be solitary activities, but careful observing and listening reveal the importance of social contexts where adults and other children become vital participants in these endeavors. By offering children a volume of bound paper, I hoped to present a way for them to give importance to the collective quality of their markings. I wanted to avoid a fragmentation of isolated products in order to emphasize their processes of thinking and learning. I wondered how young children could use journal/sketchbooks in ways that were guided by their own goals, desires, and curiosities. Since I am interested in the distinctions and similarities of how children use journal/sketchbooks, I focused on aesthetic growth during the late schematic stage (age 8). The National Association for the Education of Young Children describes children between birth and age eight as young children. I selected a setting where I could observe children's attempts at writing and drawing during the concluding phases of early childhood. The setting involved a third grade classroom where children received formal instruction in art and language. This article summarizes my findings with an emphasis on how journal/sketchbooks can be used by teachers and parents in a variety of settings where children guide their learning.

Ways to Collaborate

When the public schools and the College of Education, Health and Human Development initiated a Professional Partnership Program, our faculties came together in ways that were different from traditional relationships between teacher education programs and school districts. Most of our interactions before then were within the contexts of student teacher supervision, state conferences or graduate studies.

Professional Partnership offered us ways to draw upon our respective interests and expertise in order to enhance our professional development and nurture collegiality. These partnerships allowed us to collaboratively design, plan, and implement our projects that served goals we established. These new ways of working together encouraged us to attempt innovative teaching approaches while developing rich learning experiences in our respective classrooms.

The Partnership Committee assisted our faculties with our requests and served as a liaison for bringing us together. Susan, a third grade teacher and I were matched because we shared an interest in visual arts and language arts.

As a third grade teacher in a public school system which was beginning to articulate their support for the visual arts in elementary schools, Susan looked forward to our collaboration. She has a long personal and professional interest in the visual arts and language arts, so the concept of blending these areas intrigued her.

Our intention was to introduce new approaches that would enhance the established elementary curricula. We decided to begin in October with journals that would initially connect the art and language arts curricula, but eventually offer potential integrations with other curricula areas and students' interests. In order to avoid the students' preconceptions about sketchbooks and confusion with their writing journals, we called the three-hole drilled folders of paper, idea-keepers.

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Idea-keepers!

The idea-keepers' concept evolved from my observation of and conversations with young children. When my nephews were five years old, I gave them brightly colored plastic tackle boxes filled with art supplies. I carefully selected crayons, markers, tablets of paper, and tape in order to offer them a variety of choices as they pursued their creative endeavors. Soon after they received the boxes, I noticed that they removed the art supplies and replaced them with selections from their collection of miniature cars and trucks.

These children enjoyed carrying their favorite toys with them. Selections and decisions were important actions that nurtured aesthetic awareness (Lowenfeld & Brittain, 1987). In order to fill these containers, they observed, and considered and decided what was important enough to retain and have around for easy access. Keeping things, such as toys, lunches, and art supplies in containers was a way to save them and make them portable. As teachers we can follow a similar practice when we encourage children to document their speculations, wonders, explorations with images and words in order to preserve them in an easily accessible form. This acknowledgement of potential or value is indicative of the process of aesthetic awareness: paying attention, being alert, making careful choices, giving things meaning.

Artists have recognized the importance of keeping records of their ideas as part of their creative process. Art teachers often include some form or variation of sketchbooks in their art curriculum. George Szekely (1988) suggested approaches for teachers to use with children in classrooms that nurtured independence, availability and conscious choice. He considered sketchbooks to be a place for children to enter the art making process with purpose and thought within an environment that offered privacy needed to create.

Recently sketchbooks have emerged in the art curriculum for young children with a new focus and implementation. Christine Thompson (1990) described sketchbooks as places for children to build their repertoire of visual images. She noted the importance of children simultaneously drawing and conversing and claimed that these social endeavors constituted what she called peer tutoring or collaboration that encouraged drawing and language development.

Thompson clarified adults' roles when she suggested their active participation in the process. She encouraged adults who are significant in the lives of children, especially teachers and parents, to be interested, involved and ready to discuss and ask questions about children's drawing and writing processes.

Thompson (Thompson & Bales, 1991) arrived at these findings while observing young children drawing in sketchbooks as part of a Saturday art class. She gave these children spiral-bound tablets of white unlined paper. She quickly realized that these simply bound volumes of blank paper became places for children to plan, speculate, document, and organize their ideas.

Ann Dyson (1989) offered us another source for making connections across curriculum areas. She studied how young children in grades K-2 integrated writing, speech, and drawing as they built a community of writers. Dyson described the process she observed as friends learning to write. Although her perspective was guided by a language arts framework, she implied ways for art specialists to nurture self-guided drawing activity sustained by images and experiences that were selected by the children.

These studies encouraged us to reconsider the traditional formats and approaches to journals and sketchbooks. We introduced similar, but more developmentally appropriate ways for children in third grade to document their plans,

attempts, and pursuits with images and words. Idea-keepers were 9½" × 11½" three-holed cardstock folders that I initially filled with ten sheets of plain white paper and ten sheets of lined notebook paper. Extra idea-keeper paper was stored in an accordion file folder and held a variety of papers that included sheets of wallpaper, gift wrap, construction paper, and pastel color paper. We encouraged the children to contribute to as well as withdraw from the file. Our goal was to provide opportunities for self-guided continuous activity that invited drawing and writing processes. We wanted to offer children a way to decide and choose the ideas and materials that nurtured their personal expression.

Susan's Classroom: A Place to Think and Learn

Susan and 24 students shared a suite of two rooms. Most of their activities happened in the larger room where Susan arranged 24 desks, a piano, four center areas as well as her own desk and file cabinets. She took full advantage of walls, doors, and ceilings for displaying students' accomplishments.

We agreed to designate a window ledge as the location of the extra paper file folder, hole punch, and related idea-keeper materials and resources, such as the pop-up reference guides. Nearby we kept a cardboard box for idea-keepers' storage unless the children preferred to keep their folders in their desks.

The smaller adjacent room was separated from the larger space by a wall with large windows. This room had a sink, counters, cabinets, a loft, two large tables with chairs, and a computer area. During our idea-keeper sessions we frequently used both rooms. The smaller space often featured art activities that required water, large tables, or a quiet atmosphere.

We encouraged the children to consider where they wanted to work on their idea-keepers. The children's activities and locations were often guided by their decision to work alone, with a partner or in groups. Some children participated in all three options during one session while others chose to sustain a single approach.

Getting Started

Our first session focused on guiding the children to make the paper folders their personal volumes and establishing their ownership of the endeavor. We discussed containers, storage, and places where they keep things they care about, such as lunchboxes, bookbags, and backpacks. Then we talked about how to transform the folders into their idea-keepers, that is, a place for them to draw and write about things that are important to them. Using their crayons, markers, pencils, and collage materials, they glued, drew, and wrote on their idea-keeper covers. We concluded the session by making lists of surfaces on which to draw and write as well as how to insert them into their idea-keepers. I introduced the extra-paper file and suggested that they make contributions and withdrawals.

Being Alert: Aesthetic Awareness

One of our goals focused on encouraging the children to make choices and decisions. By paying attention to their environments, they might find papers to insert in their idea-keepers and make them representative of their individual interests, preferences, and values. We asked them to be alert to the many kinds of surfaces, such as construction paper, plastic, and fabric that offered potential as a page in their keepers. Another focus we encouraged the children to consider was their selections of materials for writing and drawing. Since they had their own pencils, pens, markers, and crayons,

they had choices and decisions to make from their own supplies.

In order to fill their keepers, we reminded them to observe and then select materials they considered to be attractive, intriguing, and compatible to their ideas. Their acknowledgment of the potential of these materials was another indication of their process of aesthetic awareness: paying attention, making careful choices, and giving meaning to ideas, materials, experiences, and images.

Making Choices and Decisions: Think-Abouts

Idea-keeper sessions started in October on Tuesday mornings from 9:00–10:00 a.m. Every Tuesday for three months I started the sessions with a five minute presentation called a "think-about." This strategy served as a way to greet the children and offer them some guidance. Think-abouts were optional, so we maintained our intention to provide the students with clear choices. We presented think-abouts that fell into two categories. Thematic think-abouts connected with ideas and concepts explored in the curriculum. Special effects think-abouts emphasized structural processes or exploration of materials that offered manipulative experiences.

Since Susan started a science unit that had potential integrations with art and literature, we planned several thematic think-abouts to enhance the botany lessons. The children planted bulbs, made drawings of their growth in botanical sketchbooks, read about Claude Monet's garden, and studied his paintings. Thematic think-abouts that connected with this unit were drawing fresh flowers that called upon their botanical drawing expertise and illustrating recipes of their favorite foods that were inspired by Monet's appreciation of fine cuisine and dining. We introduced special effects think-abouts in November and December in anticipation of a mathematics unit planned for February and March. We explored principles of geometry with these think-abouts, when we transformed flat sheets of paper into 3-dimensional forms by folding and cutting them to produce pop-up pages.

In January Susan and I decided to change the direction of "keeper time" in order to encourage the children to make their idea-keepers more personally directed, and less teacher guided. Since the children seemed comfortable with their idea-keepers, we wanted to encourage more individual active interpretation and less response to a single think-about. Although our earlier thematic curriculum approach gave the children some time and guidance that brought the concept of documenting their ideas to their attention, it was not our intention to sustain such a routine for the entire school year.

Based on our observations of the children's entries in their idea-keepers and their social interactions during idea-keeper time, we decided that they were ready for more choices during these sessions. Realizing that some children needed more guidance for awhile, whereas others were ready to take a more independent approach to their idea-keepers, we decided to increase options or think-abouts.

Before idea-keeper sessions, Susan introduced several think-abouts for the children to consider. These think-abouts were set up at the center areas and in the adjacent room. Working in idea-keepers was consistently one of the think-abouts. Other think-abouts were observational drawings of the tulips and hyacinths that bloomed in February, understanding color relationships through painting, building with clay and toothpicks, illustrating covers for their family stories, exploring geometric patterns and repetition with geoboards. While Susan and her student teacher coordinated these activities, I started to focus on individual children and their idea-keepers.

Choices and Decisions

One of the goals of the Idea-keepers project was to emphasize to the children their processes of making choices and decisions that were guided by their interests and intentions. Betty Lark-Horovitz, Hilda Lewis, and Mark Luca (1973) found categories of children's drawings that provided a framework for understanding how children's choices were influenced during the drawing process. Two categories were pertinent to our approaches. Spontaneous drawings were made by children who were guided by their own initiative or who were exploring individual interests independent of adult supervision. Free or voluntary drawings were made at the request of an adult, but with children selecting their own subjects. The idea-keeper experiences were a blend of these two cateories since we offered some guidance, but encouraged their children to consider their options before making their choices. Our request was to consider the idea-keeper as one of their options to pursue during the session.

After the greeting and guidance presentations were made at the beginning of each session, we encouraged the children to choose among several options. They could puruse the current session's think-about or continue their self-guided drawing and writing activity initiated in previous sessions. Another option was to explore the resource materials available at centers that accumulated with each subsequent session or curriculum unit. Early in the project the choices were simple, whereas later in the school year the choices became more complex as the children acquired more practice with the process.

Photodocumentation

At the conclusion of each session, I offered to photograph an entry from their idea-keepers. In order to maintain our goal that emphasized making choices and decisions, I explained that this was an option. When I had the film processed, I requested double prints of each exposure, one of which I gave to the child while I kept the other photograph for the project's documentation.

Findings

Curricular Connections

Early in the school year when the sessions' think-abouts were closely parallel to Susan's units' goals and concepts, most of the children chose to use their idea-keepers in ways that interpreted or referred to the units' content. For instance, when they were studying botany and Monet's garden, all of the children drew flowers during idea-keeper sessions. During November a few children made attempts to break away from a particular think-about by initiating drawings and writings independent of think-abouts and the curriculum. Nevertheless, connections with the curriculum gave all of us a place to begin. They seemed to provide the children a context as well as some time to develop a plan for their idea-keeper and clarify what this booklet could mean to them.

Interviews

By January I noticed several developments that lead me to want to know more about each child and the patterns of activity within individual idea-keepers. The children showed substantial attempts at independence from the curriculum based think-abouts. They seemed confident with the concept of idea-keepers and able to sustain a self-selected focus throughout the hour session.

In order to inquire about each idea-keeper, I selected an approach that they knew well. Reading conferences were similar to the interview format I followed.

The children told me when they were ready to discuss their keepers. I interviewed four children during each keeper session. An interview lasted from 10 to 15 minutes. We started the interview with a page by page review of their idea-keeper. Then I asked five questions about their idea-keepers in order to provide some consistency across the interviews.

In response to the question, "What do you like best about your idea-keeper?," reoccurring comments referred to organization. The children said that their idea-keepers helped them organize their ideas and materials. A related category of response focused on how their idea-keepers provided convenient storage for materials that they collected, but did not use. A girl responded that her idea-keeper was a place to save her work, so she could look at it again. A boy explained that his idea-keeper gave him a place to practice, so he could draw better.

Self-Guided Themes and Images

Eventually all of the children attempted independence from think abouts at least once. By March the children provided evidence of their personal focus on their idea-keepers by including drawings or writings that represented their self-guided activity that extended beyond the curriculum themes.

Several boys became focused on mechanical themes such as drawing vehicles, robots, buildings, mazes, floorplans that clarified their interest in how these things worked. These drawings were frequently accompanied by verbal explanations to me or their peers during idea-keeper sessions.

Another self-guided image or theme was pursued by several children who drew landscapes. Some children made a reference to a particular location and experience. For instance, a girl drew a small creature in a vast meadow surrounded by mountains and explained it as her recollection of her most recent hunting trip to the girl sitting next to her. Two other girls used landscapes as a context in which to set their carefully drawn images of horses.

These third graders enjoyed the cooperative endeavors offered by idea-keeper sessions. They often sought assistance and advice from one another and shared new materials or drawing strategies with each other. Idea-keeper sessions featured quiet consultation as well as focused, energetic discussions about their selected activities. Although we frequently observed these brief collaborations, occasionally some children sustained thematic bonds that were given form and substance by their idea-keepers. Two boys worked together on a set of drawings about Egyptian mummies.

Their detailed pencil drawings served as the focus of their conversations and drawing activity for several weeks. Another collaboration was evident from the drawings and writings of four girls. The characters and plots were based on their own interests and activities that constituted their friendship. Five boys participated in a loosely associated group that shared ideas and consulted with each other about their drawings of machines, vehicles, and action scenarios. Most of their drawing activity happened in solitude, but they sought each other out in order to explain the functions or tell about the narrative their drawings depicted. This aspect of their collaboration resembled a storytelling strategy that called upon the children's understanding of language as a means of expression that complemented their drawing experiences.

Conclusion

As I observed students' activities during weekly sessions, interviewed them, and examined their idea-keepers, I noticed two consistent patterns that clarified the meanings these children gave their folders. Some children used their idea-keepers as a place to practice, whereas other

students used them as a place to store materials that had potential, but no immediate purpose. Both patterns were evident in the idea-keepers of several students.

The Importance of Practice

The importance of practice was demonstrated by children who developed drawing strategies for self-selected images and themes, such as superheroes, troll dolls, horses, and vehicles. Repetition and reoccurrences of these images and themes indicated this pattern of practice. Their idea-keepers offered them a place to attempt new drawing strategies with a low risk. This pattern was particularly noticeable when the plots of their family stories challenged their current drawing abilities. The incentive to try new strategies was especially strong since the children set the content goal for the illustration and searched for the means to meet it. Although the patterns of practice were predominantly observed in drawing strategies and recurrent themes and images, some students used their idea-keepers as a place to experiment with new materials, such as markers that changed colors, cellophane, and plastic laminating film.

The Importance of Potential

Another pattern that I observed in most of the idea-keepers focused on using the folder for storage. Although the extra paper file overflowed with contributions and served as a general storage unit, some students kept their own personal cache of papers. For instance, several students stuffed the pockets of their idea-keeper folders with cutouts from magazines and catalogues as well as assorted papers they collected. They saved previous drawings, collages, and the photographs I made of their idea-keepers' activity. They did not keep everything. When they cleaned their desks before spring break, they cleaned their idea-keepers too. In a manner similar to cleaning their desks, the students reviewed the contents of their idea-keepers and retained only selected items. During this process they identified items such as drawings, paper scraps, cutout images from magazines that had potential within the realm of their ideas and plans. This pattern suggested that these third graders considered the possibilities of these materials even though they decided not to act immediately upon them. They gave meaning to materials they chose to keep, yet their purpose remained unclear.

The children's responses that I recorded during the interviews lead me to speculate that these third graders recognized potentials of the materials and themes, but were not able or not sure about how they wanted to proceed with them. A girl said that she wanted to use the papers she stuffed in the pocket of her idea-keeper, but had no time to follow through with planning how to use them. Several children explained that they simply found the visual or tactile characteristics appealing. Other children considered their idea-keepers a place to save themes that served their interests, anticipated needs, and goals.

Developmentally Appropriate Practices

Most third graders are children who were approximately eight years old. According to the National Association for the Education of Young Children, third graders are at the conclusion of early childhood development. We called upon the developmentally appropriate practices guidelines for curriculum in order to give the idea-keeper project a structure for comparison with other school activities. These guidelines claim that children actively learn through the processes of becoming aware, exploring, inquiring, and utilizing new knowledge.

Awareness

Idea-keepers gave these children a series of experiences through which they realized that their observations and perceptions of their environments allowed them to make clear, informed, self-guided choices. The idea-keepers helped us demonstrate to the children how to become aware of the importance of their thinking processes. In this way their idea-keepers became a documentation of their self-guided thinking processes.

Exploration

Idea-keepers provided opportunities for the children to safety explore how materials responded, how themes evolved, and how their personal interests connected with concepts they learned in school. Furthermore, they explored the limits of their drawing abilities without risk and within the privacy of their own folder. Their strategies of practice, that is repetition and reoccurrence of images and themes, indicated experimentations that tested the viability of their ideas and speculations about them.

Inquiry

Idea-keepers and their weekly sessions encouraged these third graders to regularly inquire about new themes and consider their possibilities with our guidance. As one student remarked in an interview, "You can go to the library and find stuff out." His incentive to know more was apparent to him after he made several drawings in his idea-keeper that were guided by a think-about. In order to continue the theme he realized that he needed more information, so he initiated self-guided library research and active learning.

Utilization

The idea-keeper experiences offered third graders a means of utilizing their knowledge acquired through becoming aware, exploring, and inquiring. These processes enabled the children to be more confident about making choices and implementing their plans. They used their idea-keepers as a place to consider new questions and possibilities. The idea-keepers served as an intermediate vehicle that bridged speculative ideas with their implementation in finished drawings and stories. Drawing, writing, and talking were ways of learning that emphasized process. They learned that a finished drawing or story was the outcome of many drawings and stories that were refined and edited by their choices and decisions.

Nurturing Children's Aesthetic Awareness

George Szekely (1988) explained that teachers can use sketchbooks to show children the importance of their creative intuition, their artistic perception, and the value of their independent endeavors. Although idea-keepers provided a way for Susan and me to understand how individual children became confident and thoughtful planners, these volumes clarified the process of aesthetic awareness for the children themselves. We noticed that these third graders sustained a commitment to self-guided drawing as well as an interest in collage. They did not relinquish drawing, but became more adept to integrating drawing, writing, and talking into personally directed endeavors. Perhaps these folders we called idea-keepers gave these children a tacit and consistent endorsement of the importance of their aesthetic awareness and their authority to make decisions and choices in order to guide their learning.

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How Should Students' Progress and Achievements in Art Be Assessed? A Case for Assessment that Is Responsive to Diverse Students' Needs

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Recently, I came across a cartoon by Christianson in my collection (*Saturday Review*, April 15, 1972) that challenged me to ask myself, "What's so funny?" Three quarters of the space in the cartoon is occupied by an elaborately feathered, long eyelashed bird singing an elaborately embellished song. In the lower left corner is a small bird, simply formed, singing a single note. Surely there was no doubt which song was the loudest and best according to standards to which I had grown accustomed. The little bird in the corner aroused my sympathy at first because it could not in any way compete with its more decorative neighbor. Then I thought, "By what criterion am I judging these two birds and their songs?" The one note song of the smaller bird, though unadorned, may in that bird's own nesting area represent an accomplishment of the highest order. It may be a first note, that when nurtured, might result in a beautiful song. In the larger bird's flock, its song may not be outstanding. How should the accomplishments of these two birds be assessed? What criteria should be used to make such an assessment?

The questions that this cartoon raises represent concerns of many educators in the United States today about how to evaluate student learning and achievement. Related issues involve what content should be taught and how should accomplishments of students from different ethnic, racial, and social backgrounds be assessed.

Problems of a National Art Curriculum and Standardized Testing

April 18th, 1991 was an important date in respect to controversies surrounding educational assessment. Both then President Bush and Secretary of Education, Lamar Alexander, in consort and supporting a conservative agenda, advocated the America 2000 plan that support a national curriculum and include (1) a national system of exams (the American Achievement Tests), (2) a national report card, (3) funding for model schools, and (4) incentives for achievement in the core subjects of mathematics, science, English, history, and geography. A number of questions arise in reaction to the America 2000 proposal. Why are the arts and social studies not included as core subjects? Besides not being valued by many Americans, are these two subject areas too controversial in respect to increased concern about multicultural and global education in the United States? Are they subjects in which progress and achievements of students are not easily assessed according to popular testing methods? Do national standardized achievement tests ex-facto mean that they will be fine tuned to national assessment measures? Should art educators extend their efforts to become members of the core 2000 club (i.e., become more like other educators who will be participating in a national system of exams and thereby gaining entrance into a conservative educational plan that is being developed for our nation's schools)?

Those concerned about national examinations have addressed issues such as lack of correlation between testing and better education, risks that proposed achievement tests would be biased against minority and women students, proposed tests would not address national diversity, and prohibitive costs of

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such testing. Proponents of a system of national examinations believe that the proposed achievement tests would provide means to assess student accomplishments against national standards, allow parents to use exam results to compare schools' performances, encompass a variety of educational measures, and permit minorities to be treated equally and judged by the same basic achievement standards as all other students.

Eisner (1991) takes the position that "schools need to be improved with vision and complexity that does them justice" and that national curriculum efforts are "a reflection of ignorance and, ironically, a diversion from what needs attention in the schools" (p. 81). Smith, O'Day, and Cohen (1991) do not share Eisner's point of view. They believe it is possible to develop a national curriculum that involves teachers and students in demanding and exciting work, preserves local and professional initiatives, and maintains democratic control over education. They also believe that there is already a de-facto national curriculum in place in the United States. Following is evidence in art education for their last conclusion: (1) state agencies, through curriculum frameworks, establish norms that effect what is taught, in all subjects including art, at K-12 levels and in preservice teacher preparation programs; (2) private textbook publishers often establish curricula content (how different is the content of Hubbard's *Art in Action* series from Chapman's *Discover Art?*); (3) not-for-profit and for profit agencies such as the Joint Committee on Students for Educational Evaluation (that is currently revising program evaluation students in all areas including the arts), the National Board for Professional Teaching Standards (that is establishing national standards for teachers to be advanced to board certification), and the National Teacher Exam of the Educational Testing Service (that sets minimum national standards for newly certified teachers) include visual arts as a component of their initiatives; (4) federal agencies such as the Education Commission of the States (that sponsored the National Assessment of Education Progress) includes art as one of the areas for which it sets standards for content and proficiency and the National Endowment for the Arts and the U.S. Office of Education that are setting a research agenda for arts education in the 1990s; and (5) the Getty Center for Education in the Arts that has promoted a discipline-based art education initiative that made a national impact through sponsoring textbooks, state curriculum guides, regional institutes, and national symposia. If such a defacto national curriculum already exists in art education, do we need further impetus toward a federally mandated national curriculum?

There are many negative consequences to having a single national curriculum in any school subject including art. There is a history of standardized exams driving the form and content of curricula rather than evaluating it. The Education Reform Movement of the 1980s lead to increased reliance on testing to assess student achievement.

Norm-referenced standardized test scores have been used to evaluate educational progress, but the benefits of such testing often have accrued mainly to institutions and have not served students directly. Politically, standardized tests often have been used to reward schools and school districts that can demonstrate that their students consistently receive high scores. Often, socioeconomic factors and entry scores are ignored and schools with high scores recieve bonuses and merit pay for their teachers. On standardized tests, content often is pre-established and basic skills are emphasized; important information and concepts often are not included to any great extent. Tested areas usually are taught at the expense of untested ones and teachers often abandon designing their own curricula and teach to these tests.

According to Worthen and Spandel

(1991), standardized tests should represent only a small part of assessing student learning whereas local, teacher-centered assessment should play the greatest role. They believe that traditional standardized tests do not promote student learning, are poor predictors of individual student performance, do not represent content emphasized in school curricula, dictate or restrict what is taught, can be used to categorize or label students in ways that may not positively affect their learning, measure a limited range of student knowledge, and are racially, culturally, and socially biased. It would be ironic if art teachers, who have resisted standardized testing in the visual arts and have used more authentic means for assessing their students' progress and achievements, would opt for becoming members of the 200 club and adopt a national art curriculum and national standardized achievement exams.

Student Diversity and Standardized Testing

Critics of standardized testing have charged that many testing procedures have been normed on middle class, white students in America and many students of color and/or from lower socio-economic backgrounds are under-represented in one or more phases of test construction (Evans, 1977). All students differ in their interests, learning styles, rate of learning, motivation, work habits, and personalities as well as their ethnicity, sex, and social class. It is these measures of diversity that standardized approaches to assessment usually ignore (Gordon, 1977). Students from diverse ethnic, racial, or social groups often possess unique cultural characteristics that should be taken into consideration when assessment measures are being developed. For example, students from African-American and Native American backgrounds, that are not middle class, often live in extended families in which cooperation and mutual aid are valued, are less competitive than middle-class white students, and have collective rather than individualistic values. According to Cheng (1986), students from diverse cultural backgrounds often share social, emotional, and educational needs of students in the dominant culture and "at the same time possess an additional set-of-needs that is the result of cultural transition" (p. 298). How can art achievements be assessed equitably for students from such diverse backgrounds and with such needs? Students too often are assessed according to a social deficit model in which deficiencies to be remediated are focused upon rather than building positively on knowledge and skills they already possess. Developing a national art curriculum would be subject to the same criticism as the construction and uses of testing. Students from diverse ethnic, racial, and social groups possess unique characteristics that should be taken into consideration when art curricula and assessment measures are being developed.

A Socio-cultural Approach to Assessing Student Art Achievements

Currently there is debate about whether students should acquire bodies of knowledge in particular fields or develop higher order thinking skills to become critical and discerning adults. It would appear that before students can develop critical thinking skills, students need to acquire knowledge, skills, and understandings about art. As Lanier (1987) has warned, "true freedom of choice is only possible when students are offered an adequate knowledge base from which to critique and make decisions about works of art" (p. 177). A knowledge base in art can be constructed in which the pluralistic nature of diverse contexts and cultures are taken into account. Learnings and knowledge that students acquire about art should be assessed toward an end goal that is

focused upon what Hamblem (1990) described as "acquiring a critical attitude whereby one becomes conscious of values, attitudes, and beliefs of one's own and other's cultural systems" (p. 217). The choice of which art content and knowledge to include and assess in an art curriculum should be responsive to local community concerns and to the needs of each teacher in his or her own art classroom.

In the past, practices within the Western art tradition stressed, in the main, individuality rather than collective art making, originality and uniqueness rather than traditional cultural patterns, permanence of art objects rather than temporariness, and abstract forms rather than meanings derived from cultural contexts (Hart, 1991). Works of art to be viewed pluralistically should be studied and meanings derived from that study should be understood in respect to contexts in which the work of art were created. Non-Western values, that may include collectivism, traditionalism, nonpermanence, and culturally meaningful symbolism should be used to also provide guidelines from which to assess students' processes and products in oral, written, and constructed forms. For students from all cultural backgrounds, art works both in terms of process and products, created collectively, within specific cultural traditions, not intended as permanent products, or with symbolism specific to the student's own race, class, or ethnic background can be assessed more equitably if flexible and personally constructed criteria are developed to assess student achievement. Students and teachers need to become more aware of the socially constructed criteria they use for assessment and to adjust these criteria when appropriate. Individual students' achievements should be measured against their own past achievements rather than solely against traditional, standardized norms or criteria. Skills and accomplishments students bring to a classroom should be taken into account and their individual progress should be monitored in appropriate and meaningful ways.

A number of art educators have stressed using socioanthropological bases for studying art works from a variety of cultures (Chalmers, 1981, 1984; LaChapelle, 1984; McFee, 1988; Nadaner, 1984). Such study focuses on sociocultural contexts in which works of art are created and stresses knowledge about the people who created them; it also includes folk and environmental arts from many cultures as well as traditional Western art. Art study from a socio-anthropological point of view would be interdisciplinary and might be organized around themes such as politics, religion, family roles, social status, or technology.

Strategies for studying and teaching art from socioanthropological bases are derived from anthropological methods such as interviews, observations, audio and visual recordings, questionnaires, written and oral histories, journal and diary keeping, note taking, photography, filming, tape recording, and survey taking (Hamblen, 1990; Wasson, Stuhr, & Petrovich-Mwaniki, 1990). Anthropological methods also can be used to identify students' socio-cultural values and beliefs and those in their community that influence students' knowledge, skills, and valuing of art works created by themselves and others. Resources that can be used to identify students' values include written forms (journals, diaries, letters, books by artists and other authors, and documents and records, etc.), audio visual resources (slides, video tapes, charts, etc.), and personnel (curators, archivists, peers, artists, etc.) (Wasson, Stuhr, & Petrovich-Mwaniki, 1990). If such anthropological methods, strategies, and resources for collecting information are suggested modes for studying and teaching multicultural art education, it seems evident that these methods also could be used successfully to assess the progress and achievements of art learnings of students from a variety of backgrounds

and would offer congruency in terms of goals and objectives.

Authentic Assessment

Currently there is interest on the part of some educators and test designers to create assessment instruments that approximate real-life, authentic situations that are worthwhile, significant, and meaningful rather than being proxies or estimates of educational goals. Authentic assessment measures that involve integrated, complex, and challenging tasks would be most appropriate to assess diverse students' progress and achievements in art. If a goal of art education is to have all students apply knowledge in different situations and employ what they have learned to create new understandings, authentic assessment of art learnings that attends to real-life situations of making and responding to works of art would be most appropriate (Zimmerman, 1990a, 1990b, 1992).

. General criteria for using authentic assessment measures, set forth by Archbald and Newman (1988) and Wiggins (1989) include (1) evaluating students on tasks that approximate a disciplined inquiry, (2) considering knowledge wholistically rather than in fragmented parts, (3) valuing student achievement in and of itself and apart from whether it is being assessed, (4) attending to both the processes and products of teaching and learning, (5) educating students to assess their own achievements in consort with assessments by others, and (6) expecting students to present and defend their work orally and publicly. Suggested strategies for teaching art from socio-anthropological bases have congruence with authentic assessment measures that have been demonstrated to be effective. Such measures have been used successfully to assess individual achievement and higher level thinking skills and abilities in art.

One authentic assessment measure is exhibitions and performances that are public demonstrations of student achievement. They provide a means of providing solutions to problems that do not have single solutions and require analysis, integration of knowledge, and creativity.

Process portfolios are another popular authentic assessment measure in which purposeful collections of student work in progress and final products are assessed in one or several art areas. In process portfolio assessment, students become participants in, rather than objects of, their own assessments. They are involved in selecting contents of their portfolios and developing criteria both for selection and for judging success and achievement. Using portfolios as assessment measures allows students, as self-directed learners, to be viewed through a wide lens in which they can be observed taking risks, solving problems creatively, and learning to judge their own performance and that of others (Frederiksen & Collins, 1989; Gardner 1990a, 1990b; Wolfe, 1987).

Profiles of student behavior that are locally designed and do not contain examples of student work also have been used as authentic assessment measures. On such profiles, student behaviors and characteristics are judged on scales according to criteria such as work habits and learning abilities, art knowledge and skills, and desire and interest in art. Another source of authentic assessment is journal entries that provide means for students to reflect upon their learning experiences, to confront and solve problems, and to make plans for future activities and experiences. Structured and open-ended interviews have been used to assess student progress and achievements in art. In such interviews, teachers and others can obtain similar information from all students as well as assess individual student achievements in art. Teacher observations and action research are other successful means of assessing student progress in art.

Additional forms of authentic assessment currently being piloted include teach-back methods in which students teach a newly learned concept to their peers (Snow, 1989) and video tapes of ongoing, overt student behaviors as well as video-portfolios of student art progress over time (Gardner, 1990; Siegler, 1989). Because students use multiple strategies on a wide range of educational tasks due to individual differences (Siegler, 1989), a variety of assessment methods should be used in combination to assess individual student progress and achievement in art because no one procedure in and of itself can yield enough information to make valid assessments.

Recommendation

Although it will require long and concerted efforts to develop and implement equitable, culturally sensitive, assessment measures for all students, the ends surely justify the means. Pre-service and in-service teacher education programs will need to be developed that would help educate teachers to create criteria and models related to teaching pluralistically and using authentic and appropriate assessment procedures to meet the needs of all students from all culture, race, and social backgrounds.

Although proponents argue that a national curriculum could be flexible enough to include some fixed topics and subject areas, with ample room for local variations (Smith, O'Day, & Cohen, 1991), the universal, in this case, would of necessity override the relative. Because there is not *one* art education, there cannot be one good and worthwhile national curriculum that can attend to the needs of all students and at the same time reflect diversity of thinking about art education students.

Looking at the cartoon again, I realize that there is not enough information provided to assess the processes and products that resulted in the songs of the two birds. I would need to observe these birds more carefully, over an extended period of time, before I could draw any conclusions about their individual achievements. I also would need to know more about the traditions of their songs within each of their species. Finally, I would need to suspend my inclination to favor only the louder, more elaborate song and to attend equally to the music produced by both birds.

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My School and Me: Children's Drawings in Postmodern Educational Research and Evaluation

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Abstract

The incorporation of students as collaborators in interpretive, postmodern educational research and evaluation efforts requires assessment strategies that are developmentally appropriate, open-ended, and intrinsically interesting for participants of various ages. The utility of employing children's drawings as a source of baseline data in a large-scale, longitudinal school transformation project is examined. Students in eight Minnesota school districts were asked by their teachers to draw pictures of "my school and me." A sample of 305 drawings were analyzed using an anthropological content analytic protocol. The long-range goal of this project is to obtain interpretive (rather than normative) information about the sociocultural consequences of institutional change. Procedures used to analyze these drawings are described, and a preliminary interpretation of findings is presented. Empirical studies of children's artwork as a form of social expression are reviewed, and the tensions between modernist and interpretive postmodernist approaches to visual arts research are explored.

For decades, visual arts researchers have used children's drawings to investigate a wide array of cognitive, developmental, and sociocultural issues. The resulting body of knowledge shows that systematic study of children's artwork has had both theoretical and pragmatic utility. Pragmatically, children's drawings have been used to inform clinical practice, identify developmental learning disabilities, and assess cognitive-developmental growth. As a theory-building device, analysis of children's drawings has most often been used to support arguments concerning the pan-human nature of artistic expression. Work conducted within this *modernist* theoretical tradition has largely focused on the way in which "universal," inborn capacities give rise to developmentally patterned representational skills (Alland, 1980; Arnheim, 1971; Goodnow, 1977; Kellogg, 1970; Lowenfeld & Brittain, 1987). Implicit within this orientation is a Romantic image of the child as a naturally creative being whose native artistic capabilities are distorted and diminished by Culture—i.e., "civilization" (Wilson & Wilson, 1985, p. 90–91). Interpretive approaches to visual arts research challenge some of the basic tenets of the modernist agenda.

The modernist tradition of visual arts research—like modernist approaches throughout the social sciences and the humanities—relies upon a number of interrelated conceptual dichotomies—nature *versus* culture; the universal *versus* the local; internal factors *versus* external factors; individual creativity *versus* conformity to communal norms; high culture *versus* low culture; work *versus* play; theory *versus* practice; and so on. Further, modernist social theory tends to privilege one side of each conceptual dichotomy over the other. [To see how this works, simply replace the word "versus" with the word "over" in the previous sentence.] Interpretive postmodernism in the social sciences is associated with a rejection of such dichotomies coupled with a variety of attempts to subvert their hegemonic power (Rosenau, 1992). Thus, while modernists continue to separate theory from practice, and "basic" from "applied" research, interpretive postmodernists tend to meld one into the other.

Postmodernism in architecture, art, and literature is characterized by what Jencks

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(1986) has labelled "double coding." Double coding is manifested in intellectual products when the creator produces work that acknowledges the interests of at least two audiences: fellow "experts" in the field, and members of the community at large. Achieving postmodernism in visual arts research will mean finding ways to carry out studies that articulate the interests of multiple audiences—studies that are both useful and theoretically interesting. The exploratory work reported here examines whether analysis of children's drawings might enhance our understanding of local school cultures by providing an "insider's perspective" on school life. We believe this kind of work represents a new and much needed area of inquiry for social scientists interested in alternative strategies for "capturing the student's voice" in educational research and evaluation. It is our contention that, if done properly, this kind of research could have theoretical value for visual arts researchers *and* pragmatic utility for educational decision makers. In this article, we provide a brief review of related research on children's drawings as social expression. We then describe our own exploration of the interstices between postmodern social theory and large-scale organizational change. Finally, we consider the limitations and implications of our work, and offer a few suggestions for those who may be interested in developing similar research agendas in the future.

Children's Artwork as Social Expression

Most empirical studies of children's art have been guided by psychoanalytic, behavioral, developmental, or educational mastery assumptions—by what Lyotard (1984) calls the "master narratives" of the social sciences (see, for example, Gardner, 1980; Goodnow, 1977; Harris, 1963; Koppitz & Casullo, 1983; Nuttall, Chieh, & Nuttall, 1988; Rubenstein, et al., 1987). Drawings have often been used as assessment tools, as "dependent measures" linked to hypotheses derived from mainstream psychological theory. However, for reasons explained below, we were interested in locating empirical work employing children's drawings as a way to obtain "emic" information in order to gain insight into how children view the social world, and as a way to learn about the world(s) in which children live. Essentially, our task involved using children's artwork as an interpretive, "fourth generation evaluation tool" (Lincoln & Guba, 1991).

Published reports of efforts to use children's drawings as an evaluation tool are in short supply, with one notable exception. Patricia Carini (1982) systematically collected children's artwork over a five year period as part of an evaluation of the New York State Experimental Prekindergarten Program. Carini's analysis focused on these materials as a way to "gain access to the child's personal statements of meaning" (1982, p. 6). She worked collaboratively with the children's teachers, and found the process to benefit both curriculum planning and instructional practice. Her approach to educational evaluation reflects the influence of both Jung and Froebel (Carini, 1979).

Relatively few studies have focused on children's art as an expression of cultural context and thus as a potentially significant source of "emic" (insider) information. Robert Coles (1986) has made skillful use of children's drawings as a way of better understanding how children make sense of the political, moral, and spiritual world. Fassler (1986) compared the drawings of Chinese and Soviet children in order to understand the way that culture mediates children's reactions to specific health care situations. Gamradt (1987) used children's drawings of "visitors who have come to Jamaica from far away" as a way to investigate the interrelationship between tourism, culture acquisition, and cultural identity in the West Indies.

Cross-cultural comparative studies analyzing children's art as a way of better understanding the culture acquisition process are also in short supply. Mead (1953) looked at Manus children's drawings for evidence of fine art production in children with no cultural tradition of drawing. Within anthropology, this cross-cultural comparative tradition has been pursued by Alland (1980), who has compared the artwork of children from six cultures—Bali, France, Japan, Ponape, Taiwan, and the United States. The preschool children participating in the study were filmed as they drew pictures using similar materials, under comparable circumstances. The drawings were analyzed using categories derived from previously published work on children's art (use of color, density, and placement of marks, white space remaining, Kellogg's 20 basic scribbles, and so on). Alland's analysis focuses largely on the "picture making process" rather than on the content of the drawings. In so doing, he moves beyond the consideration of "surface features" and attempts to discover the basic "generative rules" that shape the development of representational skills.

Pursuing a central modernist concern, he uses the drawings as a way to investigate whether "universal aesthetic principles" guide the picture making process. His results, which deserve more detailed consideration than can be given here, neither confirm nor disconfirm the existence of such principles (1980, p. 211–214). Regarding the issue of whether children's drawings might contain emic information, two of Alland's arguments are paricularly noteworthy. First, he views the acquisition of representational skills as analagous to the language acquisition process—shaped by a kind of pan-human representational grammar. Second, although he is deeply interested in the nature of this grammar, he shows relatively little interest in what his young informants tried to "say" through their artwork. The artwork of older children played only a small part in this study, and he makes it clear that these materials hold less interest for him.

> The film data turn out to be most interesting when they concern those pictures drawn by children with no school experience, particularly when the material is nonrepresentational. *The film data on school children tend to reveal rather stereotypic and predictable patterns, most of which can be deduced from the finished pictures.* (1980, p. 23, *emphasis added*)

In a sense, this study illustrates the way in which anthropologists, and other social scientists, tend to focus on issues related to the prevailing "master narrative" at the expense of the "little narratives" contained within their data. Anthropologists influenced by interpretive and postmodern perspectives tend to reverse this relationship. On the other hand, Alland's interest in the language-like nature of visual representation, and his insistence that drawing can only be defined as "playing with visual form" reflect two themes that pervade contemporary postmodern discourse—language and play.

Recent cross-cultural, comparative studies of children's artwork (Wilson, 1985; Wilson & Wilson, 1987) have led to a theoretical reconceptualization that we believe to be highly compatible with interpretive postmodernist approaches to visual arts research. Wilson has argued that an adequate theory of artistic development must address "the inextricable links between culture and graphic development" (1985, p. 90). He is critical of Romantic attempts to separate graphic development from cultural influences, arguing instead that an adequate theory of artistic development must not only account for universal, bio-psychological factors, but must also take seriously the sociocultural origins of graphic expression. While acknowledging the existence of trans-cultural "graphic biasing factors" and "graphemes," Wilson proposes that graphic representation should be thought of as a symbolic language. Symbolic languages, whether verbal,

mathematical, or graphic, are both "universal" and culturally determined. They are a product of both pan-human capacities and culture-specific experiences. Wilson and Wilson (1987) propose a theoretical framework that melds together both sides of a conceptual dichotomy that is no longer credible. In so doing, they provide an alternative to a "master-narrative" about children's artistic development that seems to have outlived its usefulness.

In the interest of brevity, we will limit our discussion to a brief overview of the key features of the Wilson's theoretical arguments. These include the following:

1) The graphic symbolic system itself provides individuals with the symbols and models they use when they create visual representations.
2) "The graphic configurations of a culture are as conventional, regular, and predictable as the words in a given language."
3) Drawing is a form of "worldmaking." Children use the graphic symbolic system to create for themselves "tangible, semi-permanent, somewhat iconic models of and for the self and world—past, present, and future." Thus, graphic narratives are used by children as a way to "form working models of the realities of their worlds" (1985, p. 96).
4) Children's drawings provide insights into this worldmaking process. The child's ability to engage effectively in this process is thus an indicator, and perhaps also a facilitator of social and cognitive development.
5) The graphic languages used when young people construct alternative worlds may be "complex, varied, expressive, and flexible," or they may be limited and inflexible (1985, p. 96).
6) Children's drawings employ graphic and artistic models that are culture-specific. The complexity of the graphic language system is therefore shaped by cultural context.
7) Exposure to media such as comic books, television, and film may enrich the child's graphic narrative vocabulary and grammar, but the effect of exposure is mediated by culture (Wilson & Wilson, 1987).
8) Experience with complex graphic narrative models (such as Japanese MANGA comic books) enhances rather than diminishes children's ability to create alternative worlds through graphic representation.
9) As a form of imaginative play, the creation of alternative worlds through drawing may provide an important "adaptive mechanism" for life in complex contemporary societies.

Although the Wilsons do not identify themselves as interpretivists, their model manifests a number of what we would consider interpretive postmodern themes. They transform the study of graphic representations into the study of a language-like communicative modality. Their focus is on the *playful* construction of multiple realities by people whose voices are often not "heard" by those in power. They embrace popular culture and high technology as a legitimate aspect of cultural study. They even go so far as to construct a theoretical model in which exposure to popular media is treated as a potentially positive aspect of the socialization process. Their analytical strategies examine children's drawings for both aesthetic *and* thematic content. On the other hand, the Wilsons' interest in theory-building and their emphasis on comparison place them well within the boundaries of the modernist tradition of social scientific work. Given the serious degree of methodological incoherence that plagues postmodern social science (Rosenau, 1992, p. 134–137), it seems likely that this kind of "hybrid" approach—which combines elements from both modern and postmodern traditions—will be with us for some time to come.[2]

Method

The drawings used in this analysis were obtained in conjunction with an attempt to develop alternative, teacher-friendly

strategies for "evaluating" a state-wide school transformation project. The importance of placing local "stakeholders"—teachers, parents, principals, and other community members—at the center of school improvement efforts is well established in the literature on educational reform. As a consequence, the project as a whole was shaped by the collaborative planning efforts of university social scientists, school teachers, administrators, and state department of education staff members. An underlying assumption shared by this group was that conventional evaluation criteria and methods would tend to suppress experimentation and risk-taking by participating school districts. This, however, presented a problem: the participating school districts and practitioners needed to be given some "space," but the social scientists and the Department of Education needed to be able to monitor and learn about the change process taking place within the schools. In response to these concerns, evaluation strategies were developed that would provide formative and comparative information without creating an atmosphere of external surveillance and criticism. The planning group decided to collect children's drawings as baseline data. The drawings would be used to capture students' perceptions of their schools during the first year of this ten-year project.

An instruction sheet describing the procedure for obtaining the drawings was prepared. The field-researcher assigned to each school site presented the idea to the school principal, who, in turn, saw that teachers received copies of the data-collection instructions. The teachers collected the drawings independently. Further standardization of the data collection process was not feasible.

Children enrolled in grades 1–6 in eight Minnesota school districts were asked by their teachers to draw a picture showing "my school and me." The task was presented by the students' teachers as a normal classroom activity. First and second grade teachers printed the child's title or comments on their drawing. Teachers were asked to complete a brief survey after the children completed their drawings. The survey invited teachers to describe any special characteristics of the class, and to indicate how long the class spent on the task. Most participants drew their artwork on plain 8.5 x 11 inch paper. Some used larger sheets of construction paper. Most used crayons or colored pens; some used pencil. All drawings were photocopied prior to analysis.

Because of the exploratory nature of this work, no attempt was made to secure a genuinely "random" statewide sample of drawings. Drawings for this analysis were selected from four school district sites that provided a reasonably complete sample of artwork from grades 1 to 6. We also selected district sites representing a variety of community settings: suburban, town (a small "commuter town"), southern rural, and northern rural. Our preliminary formal analysis has focused on a randomly selected sample of 40% of the drawings obtained from each of these four community school settings. Unfortunately, our sample does not include any drawings from urban school districts—a limitation we hope to rectify in future efforts. A total of 305 drawings were included in our analysis.

Analysis

Using standard content analytic procedures (Weber, 1985), we developed a coding taxonomy focusing on the thematic content and selected characteristics of the drawings. The taxonomy was created inductively and revised several times during the course of the early stages of this project (prior to formal analysis). Our goal was to develop a coding protocol that would allow us, with reliability, to describe some of the basic features of each drawing. These features included the setting, actors, activities, behavioral constraints, and power relations por-

trayed in the drawings, as well as the mode of presentation used (symbolic versus representational) and emotional tone conveyed. One category—national integration—was added to our schema *a priori*. The addition was inspired by Norris Brock Johnson's (1980, 1985) Parsonian analysis of the role of the public school as a mechanism for insuring national integration through the inculcation of national (as opposed to local or ethnic) values and ideals. Johnson found systematic differences in the degree to which national and local imagery was manifested in the material culture of rural public school classrooms. We wondered whether children's representations of school life would show similar patterns, and developed a set of codes for recording the presence of local, national, and cross-cultural/international imagery or symbols in the drawings.

The visual and written content of the drawings was coded using the final version of the taxonomy. Table 1 shows the categories and subcategories employed in the final analysis. Interrater agreement ranged between 74% and 79% for three of the categories (control, activity, and tone), and between 84% and 95% for the remaining five categories (setting, people, constraint, style, and integration).

Table 1.
Thematic Content and Characteristics of Drawings for the Sample as a Whole (in percentages)

Category	Subcategories	%	Range
I. style	representational	82	76–89
	symbolic	14	5–18
	combination	3	1–5
	no style (scribble)	1	1–5
II. tone	non-negative	65	57–72
	negative	7	5–11
	mixed	6	1–12
	unclear	21	14–29
III. setting	acad. classroom	33	6–30
	playground, field	13	8–18
	building salient	11	10–13
	mixed setting	11	5–17
	acad. non-clsrm.	4	2–6
	P.E. class, gym	3	1–5
	other	7	4–11
	no context	18	15–21
IV. people	children	30	26–33
	one child	24	15–39
	mixed (ch. & adult)	13	10–19
	adult or teacher	3	1–5
	no people	30	17–44
V. activity	academic	28	19–36
	athletic	19	12–26
	other	8	3–11
	mixed activities	7	4–10
	soc. interaction	6	2–8
	no activity	32	24–44
VI. constraint	spontaneous	31	27–36
	constrained	31	24–42
	mixed (divided)	7	3–10
	not applicable	31	18–45
VII. control	student	51	35–65
	teacher, school	10	6–16
	mixed (divided)	7	2–10
	unclear	1	1–2
	not applicable	31	18–45
VIII. national integration	flag, U.S.	6	3–10
	clock	2	2–4
	int'l. & cross-cult'l. imagery	1	0–4
	not applicable	91	87–94

Results

We initially approached the sample of drawings as though they were answers to a very general, open-ended question about school life. It will eventually be possible to look at the connections between these graphic representations and the other, field-based observational data that were obtained from each school during the same period of time. Following scientific convention, the "validity" of the drawings will be difficult to ascertain until this process takes place.

On the other hand, most postmodernists are both anti-foundational, and anti-representational, and reject the concept of validity altogether (Rossenau, 1992, p. 92–97; 116–124). For interpretive postmodernists, the goal is to make everyday life the focus of interpretation and analysis (rather than succumb to the evils of global theorizing and the construction of master-narratives). Viewed from this per-

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spective, our "open-ended questionnaire items" become "little narratives" expressing the story-teller's point of view. (This is not much different from the Wilson's conception of children's narrative drawings as products of their "world-making" activities.) Validity is not an issue, because each person's tale is assumed to be no more than that—and no less. The researcher's task is to present the data (stories) in a manner that will allow both expert and non-expert readers, rather than the researcher, to do most of the interpretation. The researcher's expertise shifts from that of master interpreter to that of compiler, and reluctant re-presenter.[3] We will try to strike a balance between traditional social science re-presentation of our findings, and letting the students' drawings tell their own story.

The drawings tell a number of different tales about a place called school, the people who inhabit this place, and the nature of the activities in which these people engage. Most students used a representational rather than a symbolic style of representation (82% versus 14%, respectively). In Figure 1, a fifth grader combines both styles in a "sectioned," or compartmentalized drawing. The left side of the drawing shows an outdoor scene with four smiling children in the foreground with the inscription "Socialize with friends!" at the bottom of the page. The right side of the page is labelled "Subjects, Homework!" and depicts traditional items of school material culture: a Crayola, pencil, wireless notebook, textbooks, a graded answer sheet, and a chalkboard covered with multiplication problems. We consider the left side "representational" because it portrays a context-specific setting. The right side of the drawing is "symbolic." Symbolic drawings employ icons depicting the material objects associated with school life (books, clocks, desks, paper and pencils, worksheets, tests, athletic equipment, etc.), without any additional contextual information. These decontextualized drawings sometimes convey relatively abstract messages that go beyond graphic representation. [For example, a drawing of a refrigerator with the inscription 'This school is cool.'] Non-formal analysis suggests that age was not associated with whether the student chose to include contextual information in his or her artwork.

Table 1 presents the results of our formal analysis of the 305 drawings included in the sample. The table indicates the characteristics of the drawings for the sample as a whole, and the range, in percentages, for the four participating school districts. The tone of the drawings is generally positive. Sixty-six percent of the drawings are "non-negative" (positive or neutral in affective tone). The "smiley faces" characteristic of contemporary American student artwork (Wilson, 1985, p. 94) are seen in many of the drawings (Figures 1, 3). Another 21% of the drawings are rated "unclear." These drawings are neither clearly negative nor clearly non-negative in emotional tone. "Negative" and "mixed" tone drawings are relatively rare (7% and 6% respectively). Almost all of these negatively valenced pictures were drawn by students in grades four through six. Many of these drawings focus on student boredom. Figure 2 shows a rural 6th grade student's eloquent portrayal of the experience of being "board, board, board, board, board. . . ." (While this student's spelling may need improvement, we are impressed that he was nonetheless able to spell the word "Espirit" correctly.) The words most frequently appearing in the students' written descriptions of their drawings are "fun" and "boring." "Fun" activities include social, academic, and non-academic events. Only academic activities are depicted as "boring."

When the children focused their description on school as a place, they most often drew classroom settings. A smaller number of students drew outdoor settings—their school's playground or playing field (13%). Perhaps not unexpect-

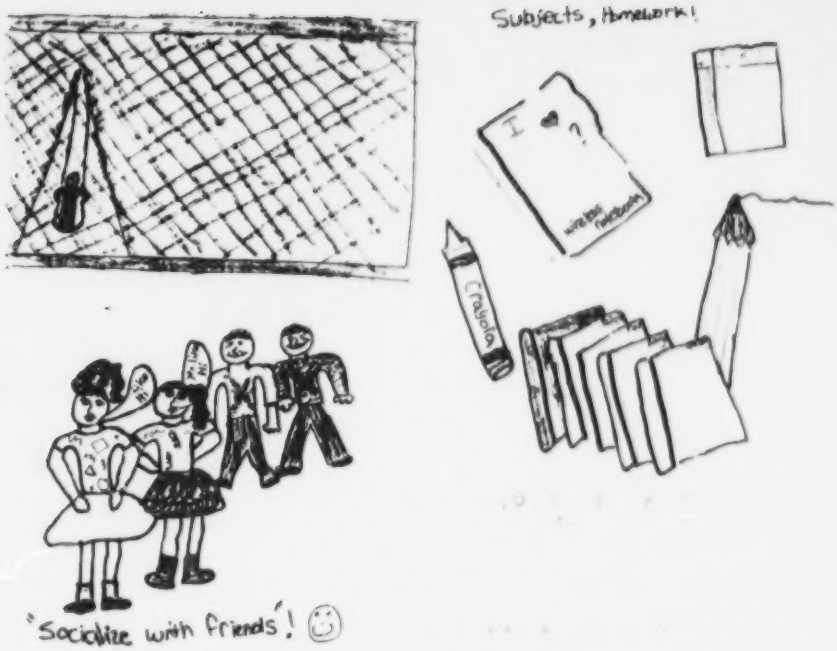

Figure 1. *A "divided" drawing showing both "symbolic" and "representational" styles of representation by a fifth grade student. The captions read "Socialize with friends!" and "subjects, homework!"*

edly, many young people made the school building itself the focal point. Figure 3 is a drawing by a first grade student that exemplifies what we would consider a "building salient" drawing. Figure 4 is another drawing of this type, one that is unusual by virtue of its composition and clearly negative tone. The school building is drawn off center, tilted, and the United States flag is a prominent part of the scene. Our coding taxonomy—which tends to collapse information together and does not address aesthetic characteristics—does not do justice to the complexity of this student's tale.

We examined all drawings for evidence of local, regional, national, or international geopolitical integration. Six percent of the drawings depict American flags and 2% contain clocks. Johnson (1980, 1985) considers both of these icons to be symbolic of the school's function as an agent of national integration. The drawings contain no clearly identifiable local, ethnic, or regional imagery or symbolism, and only 1% of the drawings include international themes or symbols. These patterns are consistent with Johnson's (1980, 1985) and Gamradt and Avery's (1992) findings in the United States, and Gamradt's (1987) findings in the West Indies.

Drawings containing national icons are often quite striking both visually and thematically. (See, for example, Figure 5.) Our taxonomy does not "capture" this phenomenon; the best we can do is make note of it. For us, the student's choice of subject in Figure 5 is extraordinary. It tells a story that should be discussed by all of the stakeholders in our project. Such discussion could lead to new ways

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Figure 2. *One of several ways students depicted boredom. This sixth grade student is "board, board, board, board. . . ." The caption reads "I'M IN STUDY HALL, YAY!"*

of thinking about the broader purposes and specific practices that are woven into the fabric of everyday life in American schools.

Figures 6 and 7 provide another example of drawings that warrant multiple readings and thoughtful discussion by stakeholders within the educational community. Both drawings were drawn by rural first graders enrolled in the same school and classroom. Both students

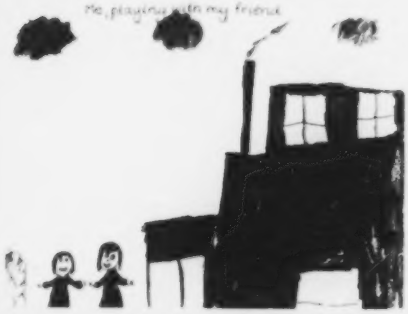

Figure 3. *A "building sallent" drawing by a first grade student. The caption reads "Me, playing with my friend," and was transcribed by the teacher.*

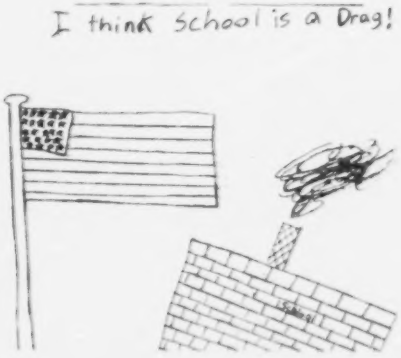

Figure 4. *Another drawing of a school building done by a fourth grade student. Note the prominence of the United States flag. The caption reads,"I think school is a drag!"*

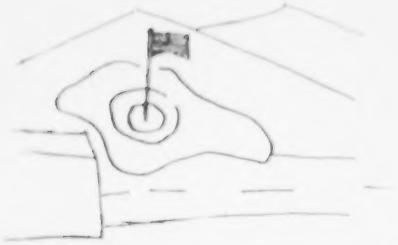

Figure 5. *One fifth grade student's drawing of "my school and me."*

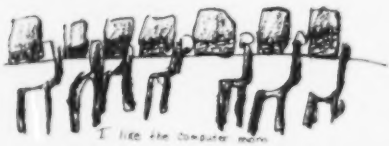

Figure 6. *The caption transcribed by the teacher on this first grader's drawing reads "I like the computer room."*

drew pictures depicting their appreciation of computers as an aspect of their relationship to the school. However, one student drew a row of seven computer stations extending horizontally across the bottom of the page. The student's title (transcribed by the teacher) reads: "I like the computer room." The other child drew a single computer station, outside the school, floating just under a horizon that gives way to a sky filled with fluffy clouds. This child's comment was: "I like the computer." There is probably a difference between liking the computer, and liking the computer room. These young artists have helped us begin to see this difference, and wonder about it.

What kinds of people were portrayed in the drawings, and what were they doing? About one-quarter of the drawings show a single child; 30% contain more than one child. Another 30% did not portray any people. When people were shown in the pictures, they were most often engaged in academic or athletic/playground activities (28% and 19%, respectively). Few of the children in our sample depicted social interaction (6%). Children who chose to draw groups of children often indicate that the people in their drawings are "friends." Clearly, these participants consider relationships with peers to be an important part of school life. Sometimes these relationships can be vexing—as shown in Figure 8, which is captioned, "Evan always picks on me." The picture shows the student confronting a bully of truly gigantic proportions. The giant responds to the student's defensive efforts with laughter. Slightly less than a third of the activities portrayed involved "spontaneous," non-formal, and/or playful patterns of interaction. An equal number of activities were "constrained" by ritualized, formal settings, and conventional mechanisms of social control.

Taken as a whole, the drawings provide insights that our analytical strategy can-

Figure 7. *This first grader's caption reads "I like computers."*

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Figure 8. *This fifth grader portrayed a troublesome bully. The caption reads "Evan always picks on me." The smaller figure says "Evan, I told you I don't want to be touched!"*

not adequately represent. They show that many children are concerned about the same things that trouble their teachers. More than one child depicted school as prisonlike (Figure 9), plagued by violence, and hard on self-esteem. Other drawings provide glimpses of school life that are full of good humor and appreciation. For those who will take the time to reflect upon them, the drawings are full of rewarding insights, reminders, warnings, and lessons-to-be-learned. We think the most important lesson may be contained in what is probably a self-portrait drawn by a student named "David" (Figure 10). The drawing shows someone standing beside and touching an "electric box" that is marked "Danger" and "Don't touch." The inscription reads "I have terrible grades but i hope i pass any way Please thank you for your service." Our *interpretation* of this drawing is that David knows a lot about what it means to be a stakeholder in the process of educational reform, and was glad that someone finally thought to include him in the conversation.

Conclusion

Our preliminary work indicates that children's art lends itself to formal interpretive analysis, even when content rather than form is used as the basis for analysis. Regardless of whether the longitudinal, comparative dimension of this project proves viable, our analysis suggests that children's artwork can provide a useful source of emic information about school life. The children's drawings can be considered as pictorial answers to an

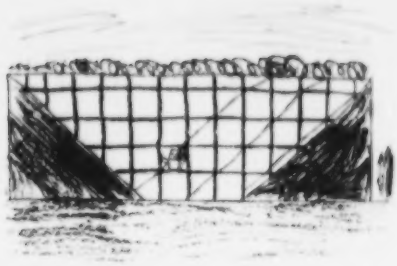

Figure 9. *School as prison. The tiny figure in this fifth grader's drawing yells "Help!"*

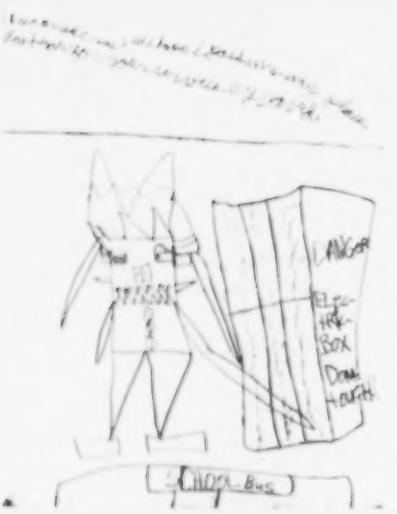

Figure 10. *A sixth grader's self-portrait: "I have terrible grades but I hope I pass any way, please thank you for your servise. by David." The words on the "electric box" read "DANGER. DON'T TOUCH."*

open-ended, very general question about the child and his or her relationship to the school. Alternatively, they can be read as "stories" about the nature of everyday life in schools. Unfortunately, the relatively informal nature of data-collection procedures makes it difficult to assess the degree to which the teacher might have influenced the children's construction of their drawings. However, one of the benefits of this approach may lie in its potential to foster teachers' continued interest in and sensitivity to their students' perceptions of the school experience. It is apparent that students are willing to participate in this kind of "conversation" about educational reform. Perhaps, like David, they were grateful for an opportunity to do so.

Compassionate, thoughtful reading of children's drawings requires absolute respect for the legitimacy and integrity of this mode of expression. Teacher training institutions should develop ways to help both novice and experienced teachers learn about their students by "listening" to their artwork. However, given the heavy emphasis placed on psychological assessment by most teacher training programs, a word of caution is in order. In our view, teachers should never use children's drawings as indicators of individual, psychological traits and skills. They must learn to view their students' drawings as "group data"—as representations of collective, cultural patterns rather than as indices of individual, psychological attributes. Focusing on individual characteristics almost always leads to comparison, and comparison almost always leads to ranking. Comparison often obscures more than it reveals. While each student's "story" is important in its own right, it is best interpreted *in combination with* all of the other tales told by his or her peers.

This initial attempt at examining children's visual representations of their school has illuminated some new areas for further investigation and program development. Future efforts will be directed toward systematic comparison of the drawings across community settings. Observational data collected at the school sites will be reviewed as an aid to further interpretive analysis. The student (and practitioner)—centered approach adopted by this evaluation effort mandates participation by the widest possible range of participants. Hence, an important task for the evaluation team

will be to find ways to include students, teachers, parents and administrators as future collaborators in this inquiry.

Notes

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1. The authors would like to thank JoAnne Curry, Center for Applied Research and Educational Improvement, and Marion Dobbert, University of Minnesota, for their assistance with this project.

2. Jencks (1986) argues that "true postmodernism" combines elements of the modernist tradition with postmodern themes. From this point of view, the Wilson's work falls clearly within the postmodern tradition.

3. Considering the implications of postmodernist thinking for the use of children's drawings in educational research and evaluation has made us keenly aware of the difficulties inherent in all attempts to represent (literally, to re-present) data. Presenting our findings to other social scientists requires us to represent our data in some way. All efforts at representation are shaped by a complex series of personal, interpretative decisions. According to postmodernists, where social scientists go wrong is that they use rhetorical and conceptual devices—the scientific method—to persuade others of the correspondence between the "real" world, and their interpretation of it. Postmodernists do not believe that a real world exists independent of human interpretation. Thus, "scientific objectivity" is an inherently inauthentic, potentially hegemonic device for privileging one group's world view while devaluing all others. This is an important problem, and one that the social sciences are only beginning to address (Rosenau, 1992). The best we can do is to assert our awareness of the nature of the "game" while at the same time inviting those less qualified than ourselves to play it. As researchers who have been cast in the role of project evaluators, our task must be to broaden, to make more inclusive the interpretive community with/in which we operate, and from which we can learn to see the world in new ways. Ideally, interpretation of the drawings would be carried out by a group of people who would include students, teachers, administrators, parents, and social scientists. This would not necessarily make our interpretations more "accurate," but it might make them more authentic. Such collaboration might dissuade researchers from mobilizing their data in support of their own theoretical and ideological agendas while maintaining an illusion of scientific detachment and neutrality. We therefore offer one reading of a set of representations that are as unique and distinctive as the students who drew them.

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The Effects of Development, Manipulation of Objects, and Verbal Cues on the Spatial Representation in Young Children's Drawings

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Abstract

This study examined the effect of development, manipulation of objects, and verbal cues on preschooler's spatial representation in observational drawing. Four-, five-, and six-year-olds were given the task to draw a transparent object in front of an opaque object. The experimental variables included various levels of object/array construction and verbal cues about salient spatial features required to represent overlap in drawing. Development level is reconfirmed as a predominant factor of spatial representation in children's observational drawings. The results also revealed that preschoolers acquire skills of spatial representation at a dynamic rate during the preschool years. Significant comparisons for verbal cues indicated that past research in children's graphic spatial representation does not give enough supportive evidence for the preschoolers capabilities to analyze visual structures for translation of spatial representation in drawing.

Introduction

Art educators recognize children's drawings as indications of children's perceptions about their world. Children's perceptions about their world can be inferred by recording and classifying the process and product of drawing (Thomas & Silk, 1990).

Visual art researchers assert that one facet of the art educator's role is to nurture the selection and attention processes of children's perceptions from observation of objects to enrich art experiences (Salome, 1965; Salome, & Reeves, 1972; Dorethy, 1973). Early Childhood Art Education implements instructional strategies that encourage young children to examine object features for the discrimination of contour, size, shape, and spatial arrangement to enrich their drawing experiences (Chapman, 1978; Herberholz & Hanson, 1990; Colbert & Taunton, 1990).

Spatial Representation Characteristic of Young Children

Past studies that focus on young children's ability to depict spatial representation indicate a clear age effect in children's ability to depict spatial relationships between objects, whether the drawing task is controlled or uncontrolled (Freeman, Eiser, Sayers, 1977; Cox, 1978; Goodnow, 1977; Golomb & Farmer, 1983). In observational drawing tasks, a well-established feature of preschoolers spatial depiction is the lack of overlap in form that would represent the viewpoint of one object behind the other in occlusion or orientation of objects. Characteristically, the young child will choose to depict the distant object of the array either above, below, or beside the frontal object or show a stereotypical, canonical representation of object features instead of object orientation. The axiom is young children draw what they know not what they see. View-specificity of such spatial features as "in front" or "behind" have not been indicative in the drawings of children below school-age (Wolf, 1988).

Caron-Prague (1992) maintains that in order to understand what aids may assist children below school age in spatial representation, the mental model of the translation between observation and drawing needs to be examined. In a series of perspective-taking tasks, Bryant (1974) examined the mental model that young children follow in the observation of objects and concluded that unlike adults who respond to spatial information ab-

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stractly, young children respond with point by point comparison of structures observed. Crook (1985) states that in the mental code of young children's observational drawings of object/arrays, they are "pressured to itemize" from their mental inventory of structural properties of objects. This drawing bias results in their focus on features of isolated objects instead of the features that would convey spatial representation between objects. Crook clarifies the axiom that "young children draw what they know, not what they see" by stating that they draw "what they know about what they see."

Real Objects as Models for Young Children's Spatial Representation

Hagen (1976) states that the development of the ability to perceive objects occluded in pictorial depth precedes the ability to produce occlusion in drawing. In other words, the task demands of drawing must be considered as factors in spatial representation. The aim of the present study is to examine what aids and interventions in drawing tasks will effect the differentiation of spatial information between object/array in drawing.

Transparent objects have been utilized in a few studies to eliminate visual ambiguity about the spatial feature of enclosure or occlusion in the drawing task (Freeman & Janikoun, 1972; Light & Macintosh, 1980; Davis, 1984; Cox & Martin, 1988). When transparent objects are arranged with opaque objects, the task of drawing shared contours and hidden lines of an occluded object is eliminated. The task clearly shows one form enclosed within another. Integral details of transparent objects are revealed such as a handle of a glass mug oriented to the back of the container (Davis, 1984). Yet results show that young children separate forms enclosed one within the other even though drawing transparent objects does not require them to produce "hidden lines."

Object Manipulation in Drawing Tasks

Light and Macintosh (1980) devised an experiment to make the arrangement of one object behind another perceptually clear. A small toy house was placed behind and/or inside a transparent beaker. Over half of the six- and seven-year-old children in this study would depict the spatial arrangement of the house inside but not behind the glass beaker. Light and Macintosh maintained that the functional meaning of a beaker as a container was a conceptual cue that designated a form can only be drawn within another form if one object is actually known to be inside another object. In other words, depiction of a house inside is reserved only when the house is known to be inside a beaker not for viewpoint depiction.

In further studies with transparent objects, researchers have manipulated attributed of object/array to find out what task demands will influence young children to draw spatial information from their viewpoint. The findings indicate that if children below eight-years-old are given perceptual aids to compare and contrast spatial information of object/array they will draw the spatial representation of occlusion or orientation from their viewpoint. Davis (1984) found that children from four- to seven-years-old would depict a handle within the interior of a glass mug if given the opportunity to examine differences of orientation between two transparent mugs, one with a handle on the side and the other with a handle displayed from the back. In a similar study by Cox and Martin (1988) two beakers, one opaque and one transparent, were placed in front of five-, seven-, and nine-year-olds. A bright green cube was placed either inside or behind the beakers. Surprisingly, all of the subjects of all age groups drew proper view-specific drawings for both inside and behind arrays. This study concluded that even young children can draw what they see if cues about object attributes that focus

attention on spatial features are presented in arrays.

An objective of the present study is to re-examine the stimuli effect of a transparent object on the spatial representation in young children's drawing. Unlike previous studies, the transparent object will be manipulated to suggest a proper barrier for an opaque distant object.

Object Manipulation in Active Construction

Motion parallax as action on objects has been examined as an effective measure for graphic strategy (Salome, 1965; Salome & Reeves, 1972; Dorethy, 1973; Venger, 1982; Crook, 1984). The ability to build visual models has been used as a method to aid visual modeling for drawing according to Crook (1984). Venger (1982) found that five-year-olds who had opportunities to handle and construct spatial models displayed markedly improved abilities in spatial representation in drawing.

As children between the ages of one- and eight-years-old acquire skills in modeling three-dimensional objects, Wolf (1988, p. 239) found that they represent primitive spatial relations such as "next to," "past," or "connected to," in their drawing. The meaning of the marks in object handling and graphic translation is found to be the position and/or motion in modeling, not attributes such as object size, shape, color, or volume of isolated objects. Crook (1985, p. 261) terms the depiction of motion in drawing as "structured description."

In an early report by Clark (1897), children witnessed the placement of a hatpin in an apple. In graphic description, younger children drew the pin as a straight line across the contour shape of the apple. This is interpreted by Crook (1984) as the mental coding in temporal motion of 'apple,' 'pin,' and 'through.' The distinction of this study lies in the verity that young children will rarely draw a "see-through" depiction of objects in an array, spontaneously unless prior knowledge suggests that these features belong inside, for example in drawings of an X-ray figure (Goodnow, 1977). The inference from the Clark study suggests that action leads young children to indicate construction. In a re-examination of the Clark study, Crook (1984) found that four- to seven-year-olds were very successful in depicting the occlusion of a stick in a ball when shown the action of two stick segments pushed into opposite ends of a hole in a yellow ball. However another group who witnessed a whole stick pushed within the ball produced transparent views.

Crook's findings suggest that when there is a match between action of three-dimensional construction and two-dimensional translation of drawing for spatial representation, young children will draw viewer-specific information. The combined cues of action and feature differentiation seemed to reduce the tendency to draw information about each isolated object in favor of the spatial relationship between objects.

Verbal Cues and the Spatial Representation in Young Children's Drawings

Several previous studies have addressed the effect of verbal instruction on spatial representation in observational drawing tasks (Cox, 1981; Light & Simmons, 1983; Barrett & Bridson, 1983; Su, 1991). These findings suggest that dependent on the form of verbal cues, young children's drawing strategies will change from concerns about isolated objects to the spatial representation between objects.

In adults, Van Sommers (1984) investigated verbal cues as constrained by the drawing action and syntax of wording. The phrase "object A in front with object B in back of it" was more effective in eliciting the drawing sequence of "A first then B" than the phrase "object A is in

front of object B" (1984, p. 108). Although the syntax seems to be effective for adult subjects, verbal cues about viewpoint have been shown to be constrained by age. Barret and Bridson (1983) found that the instruction to "draw what you see," was not as effective as "Please, can you draw this for me exactly as you can see it from where you are sitting? Look very carefully at it while you are drawing so that you can draw it as you see it." The results were not significant for children younger than seven-year-olds however. This study concluded that the drawing strategies of younger children are inflexible to external means. Both instructions seemed to be too general for young children who have little experience to restrict attention to all that they see in array models.

Golomb (1974) utilized a form of dictation about the spatial reference points in the structure to be drawn. The order for spatial features were dictated as the preschooler viewed a figure drawing. The verbal cues of temporal order aided depiction of spatially coherent figures from even three-year-olds to differentiate detailed figures.

Previous reports on verbal cues suggest that labeling can elicit mental representation of the array, however, the most effective cues are those that link structure observed to structure drawn. The aim of the present study is to examine the effects of object/array construction and verbal cuing about salient spatial features of object/array.

Main Questions of the Study

The main questions addressed in the present study are summarized as follows:

1. Is the spatial representation in the observational drawing of a transparent object in front of an opaque object, depicted differently by: four-, five-, and six-year-olds?
2. When subjects are given the opportunity to manipulate and place a transparent object in front of the opaque object will the spatial representation in array drawings be different?
3. When subjects are given minimum or maximum verbal cues about spatial features of one object in front of another, will the spatial representation of array drawing be different?

Method

Subjects

A total of 120 subjects, representing three developmental groups, participated in the study. The pool of subjects included 40 four-year-olds, 40 five-year-olds and 40 six-year-olds drawn from thirteen city-wide daycare centers and park district summer camps.

Materials

A small ceramic house (1.5" high x 1.5" wide x ⅞") was utilized in this observational drawing study. This stimuli was chosen because of the object's familiarity in meaning to the young child. In addition, a clear plexiglass rectangle (2" high x 6" wide x .5") with a grid pattern etched into the frontal plane of the rectangle was placed in front of the ceramic house (see Figure 1). A clear wall was chosen to eliminate visual ambiguity of one object occluding another yet retain the identity of one object in front of another. A wall was used instead of a transparent container as in previous studies (Light & MacIntosh, 1980; Davis, 1984; Cox & Martin, 1988) to eliminate the semantic meaning of containment. The plexiglass rectangle was labeled "wall" to suggest that the object has a function other than a clear plexiglass rectangle. The grid pattern was etched in the wall to draw attention to the object/array and to suggest bricks of a wall. For each experimental condition, two wooden blocks

Figure 1. *Stimuli for the drawing task of one object in front of a farther object.*

(3" high x 6" wide x 3") were placed under the array to correspond with the eye level of the subject. White 8" x 10" drawing paper, pencil, and eraser were provided for each subject.

Conditions

Four experimental conditions were established to examine the effect of manipulating objects in array construction and verbal information. The subjects in all developmental groups were randomly assigned to one of the four experimental conditions which were labeled as experimental condition A (manipulation and minimum verbal cues), experimental condition B (no manipulation and minimum verbal cues), experimental condition C (no manipulation and maximum verbal cues), or experimental condition D (manipulation and maximum verbal cues).

Procedure

The subjects in experimental condition A (manipulation and minimum verbal cues) were shown the ceramic house by the experimenter and asked to identify the object. As soon as the word, "house" was elicited, the subject was asked to place the house in front of the subject. After this manipulation, the experimenter presented the subject with the plexiglass rectangle. The experimenter asked the subject to identify it. After some dialogue, the subject was asked to "pretend it is a brick wall." The experimenter asked the subject to place the "wall" in front of the house. Finally, the experimenter gave the subject the minimum verbal cue to draw the wall and the house as seen. A pencil, eraser, and 8" x 10" paper was given to the subject.

The subjects in experimental condition B (no manipulation and minimum verbal cues) were presented with the array of wall in front of the house previously arranged before they enter the room. The array was identified by the experimenter as "a wall and a house." The subject was asked to draw the wall and the house as seen. The experiment proceeded as experimental condition A with the drawing activity.

The subjects in experimental condition C (no manipulation and maximum verbal cues) were presented with the already constructed array of wall in front of the house as in experimental condition B.

However, in this situation maximum verbal cues were then given to the subject. The experimenter used verbal cues that described the placement of the array which were (a) the wall is between you and the house, (b) the wall is first and the house is last, and (c) the wall is protecting the house.

In addition, verbal cues were given that described features as seen from front to behind in the array. These cues described (a) the edge of the wall, (b) brick lines on the wall, and (c) the edge of the house, windows, doors, chimney. The subject was initiated into the dialogue of pointing out features by being asked to confirm the verbal cues offered by the experimenter. Following this dialogue, the subject was asked to "draw the wall in front of the house . . . protecting the house." The drawing task then proceeded as for experimental conditions A and B.

The subjects in experimental condition D (manipulation and maximum verbal cues) manipulated the house and wall with the same procedure as experimental condition A with one exception. After the subject placed the wall in front of the house, the experimenter used the same extensive verbal cues as experimental condition C. As in experimental condition C, the subject was brought into the dialogue of pointing out features by being asked to confirm the verbal cues offered by the experimenter. The same instruction of drawing was offered to these subjects as experimental condition C. After each subject finished the drawing in each experimental condition, they were thanked and lead back to their classroom.

Results

Drawing Classifications

The drawings were classified in two categories which were chosen so that a scope of criteria could be considered "Unified" spatial information or "Separate" nonspatial information between the wall and house. The drawings that were classfied as Separate were distinct in the fact that no edge of the house would overlap or join an edge of the wall.

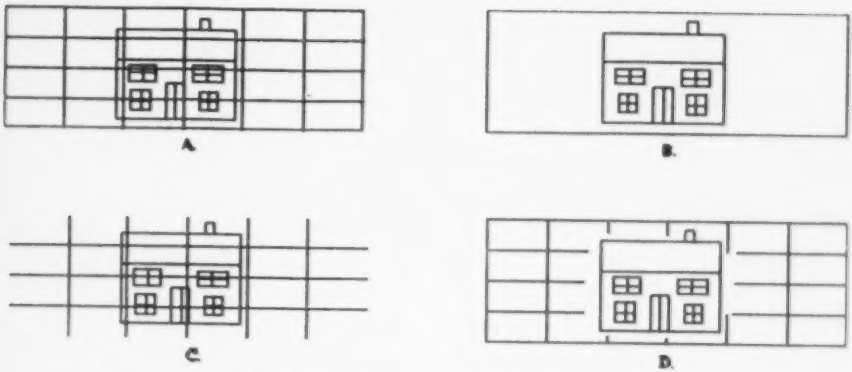
The drawings were classified according to the criteria of spatial representation indicated by three features which were (a) house, (b) wall contour, and (c) pattern on the wall which could be interpreted either as grid or brick shapes. The main interest in this study was not the fidelity of isolated object features but the representation of object/array relationships. Figure 2 shows how the criteria of spatial representation was utilized to classify the drawings into two categories.

Unified drawings represented the wall in front of the house by the criteria of (a) the house superimposed by wall contour and pattern, (b) the house only enclosed by wall contour, (c) the house only enclosed by pattern, or (d) the house enclosed by the wall contour and pattern but not superimposed by pattern in an embedded depiction. These drawings were labeled (U).

Drawings were classified Separate as a nonrepresentation of wall in front of the house by the criteria of (e) the house above wall with or without pattern, (f) the house below wall with or without pattern, (g) the house on left side of wall with or without pattern, or (h) the house on right side of wall with or without pattern. One category that is not included in either criteria is the depiction of only the house or the wall. This isolated representation was also considered as a Separate drawing. These drawings were labeled (Sp).

Expert Art Judges

All of the drawings were classified by three expert judges without knowledge of the subject's age or experimental condition. One hundred and two of the 120 drawing scores indicated 100% agreement among the judges while the remaining 18 drawing scores indicated 67%



Graphic criteria for Unified drawing.

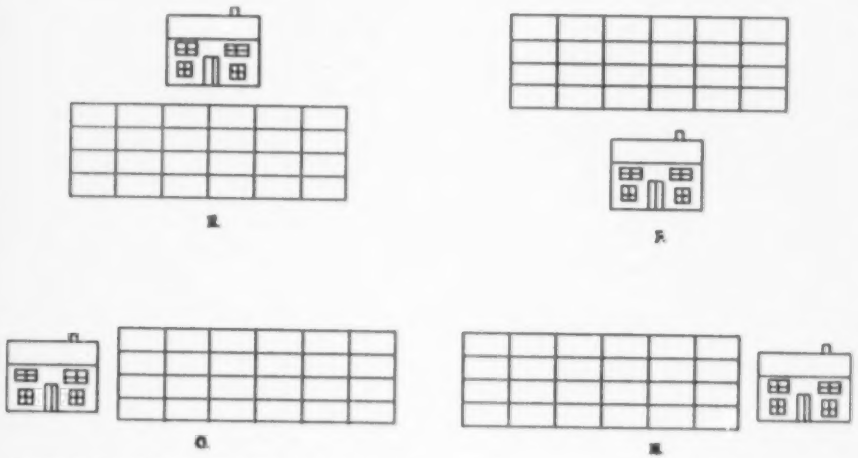


Figure 2. *Graphic criteria for Separate drawing.*

agreement. The consensus scores for those remaining drawings were accepted as reliable evidence in this study.

Table 1 shows the frequency of U and Sp drawings by age and experimental condition.

Descriptive Analysis

Unified drawings accounted for 60% of all the drawings elicited from subjects in the study. From the total number of Unified drawings, only 22% of the four-year-olds chose to draw the spatial representation of the scene. Five-year-olds followed with 31% choosing the Unified depictions. Six-year-olds led the group with 47% of the drawings that were categorized as Unified. By examining the recorded distribution as a whole for each experimental condition trends from younger to older developmental levels, the order of Separate drawings are clarified. The trends were experimental condition A with 14%, 36%, 50%; experimental condition B with 14%, 38%, 48%; experimental condition D with 11%, 42%,

Table 1. Distribution of Frequencies for Unified and Separate Drawings by Developmental Level and Conditions of Intervention

Drawing category for each Condition*		Developmental Level			Total
		4	5	6	
Unified (U)	A	2	5	7	14
	B	3	8	10	21
	C	9	1	8	18
	D	2	8	9	19
Unified Total		16 40%†	22 55%†	34 85%†	72 60%‡
Separate	A	8	5	3	16
	B	7	2	0	9
	C	1	9	2	12
	D	8	2	1	11
Separate Total		24 60%†	18 45%†	6 15%†	48 40%‡

* Condition A = minimum verbal cues and manipulation of objects
Condition B = minimum verbal cues and no manipulation of objects to be drawn
Condition C = maximum verbal cues and no manipulation of objects to be drawn
Condition D = maximum verbal cues and manipulation of objects to be drawn.

† The number of U, or Sp drawings divided by 40 (the total for each developmental level).

‡ Number of U, or Sp drawings divided by 120 (the grand total for all developmental levels).

47%, but not in experimental condition C with 50%, 6%, 44%. Separate drawings account for 40% of all the drawings solicited from the three developmental levels. Fifty percent of all the Separate drawings classified were produced by the four-year-olds. This result was followed by the five-year-olds with 38% choosing a Separate depiction. The six-year-olds were not very well represented in the Separate category with only 12% Separate drawings.

The frequency of drawing categories and age trends for U and Sp drawings is shown in Figure 3.

The study used a three by two by two design with three levels of development, two levels of verbal cues, and two levels of manipulation of objects to be drawn.

The Influence of Development

In order to distinguish an association for Unified or Separate drawing category across developmental levels and between the four conditions, a chi-square analysis for drawing category across developmental levels was executed. There was no significance association for drawing category across all developmental levels between experimental conditions $X^2(3, N = 120) = 3.61$, $p > .10$. As a result of this finding, an analysis for an association between the three developmental levels for drawing category was utilized with chi-square analysis.

There was a highly significant association for Unified or Separate drawings between developmental level and drawing categories $X^2(2, N = 120) = 17.50$, $p < .01$.

In order to distinguish which particular developmental levels were performing differently in experimental conditions, 3 two-way analyses were executed separately for the four-, five-, and six-year-olds. Within their own developmental level, four- and five-year-olds showed significantly

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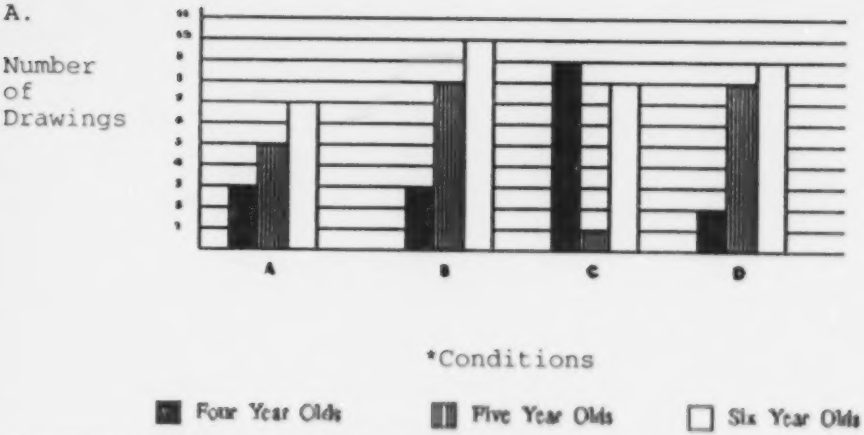
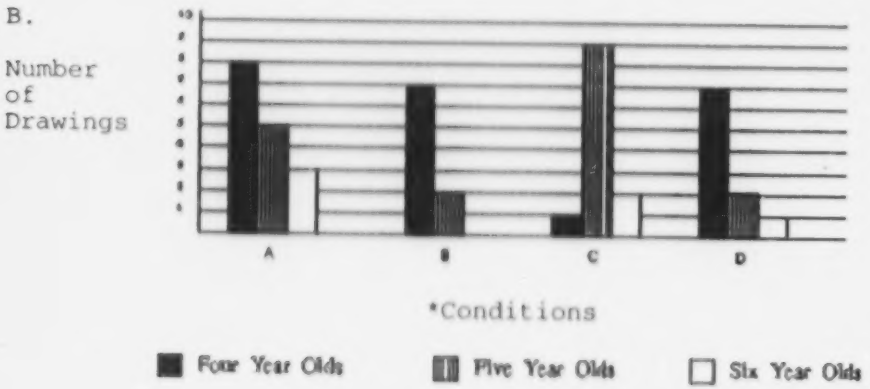


Frequencies of Unified drawings for each age group between conditions.



*Condition A = Manipulation with verbal cues only
*Condition B = Minimum verbal cues only
*Condition C = Maximum verbal cues only
*Condition C = Manipulation with maximum verbal cues

Figure 3. *Frequencies of Separate drawings for each age group between conditions.*

different drawing patterns for experimental conditions. There was a distinct association for Unified or Separate drawing and condition fo the four-year-olds $X^2(3, N = 40) = 14.17, p < .01$. Likewise the distinctly significant association for five-year-olds in experimental conditions of intervention was indicated $X^2(3, N = 40) = 13.33, p < .01$. Six-year-olds did not perform significantly different between experimental conditions of intervention. There was no association for the inter-

vention in the experimental conditions for this developmental level. $X^2(3, N = 40) = 3.92, p > .10$.

The Influence of Intervention

Specific comparisons within each age group were examined for the effects of manipulation and construction of object/array and verbal cues. For the four-year-olds, there were two significant associative comparisons. Both significant comparisons included condition C where all but one four-year-old who were given many verbal cues about the array model chose Unified depictions. One of these significant associations indicated only two Unified drawings in condition A (manipulation of objects with minimum verbal cues) with condition C (maximum verbal cues only) Yates $X^2(1, N = 20) = 9.90, p < .01$. The second significant association for four-year-olds was established between condition D (manipulation of objects with maximum verbal cues) where only two Unified depictions were indicated and experimental condition C (maximum verbal cues only) Yates $X^2(1, N = 20) = 9.90, p < .01$. A significant association was also found between condition B (minimum verbal cues only) with only three Unified depictions and condition C (maximum verbal cues only) but not quite as strong an association as the first two comparisons for four-year-olds Yates $X^2(1, N = 20) = 5.21, p < .05$.

For the five-year-old subjects, the first significant association revealed five Unified drawings in condition A (manipulation of objects and minimum verbal cues) compared to only one Unified drawing in condition C (maximum verbal cues only) Yates $X^2(1, N = 20) = 3.81, p = .05$. In a similar finding, five-year-olds in condition B (minimum verbal cues only) chose eight Unified drawings compared with experimental condition C (maximum verbal cues only) Yates $X^2(1, N = 20) = 9.90, p < .01$. In condition D (manipulation with maximum verbal cues) five-year-olds drew eight Unified drawings compared to one Unified drawing in condition C (maximum verbal cues only) Yates $X^2(1, N = 20) = 9.90, p < .01$.

Six-year-olds did not perform significantly different between experimental conditions of intervention. There was no association for the intervention in the experimental conditions for this developmental level. $X^2(3, N = 40) = 3.92, p > .10$.

Discussion

Examination of the total drawings classified as Unified indicated that children of six years or younger were adequately successful at representing the arrangement of an opaque object behind a transparent object. In the present study, the evidence disclosed that over half of the subjects drew Unified drawings of an opaque house behind a transparent wall. A majority of the subjects in the study chose to draw the structure as seen in observation. This finding was qualified, however, by a distinct developmental trend. The majority of drawings that depicted the wall and the house separately were executed by the four-year-olds except in the experimental condition where the intervention was restricted to maximum verbal information only. Object exploration did not seem to aid four-year-olds in drawing Unified information nor did the minimal instruction to "draw the wall in front of the house." This finding suggests that they responded to the dictation about many spatial cues but, as indicated by the poor performance in other experimental conditions, four-year-olds probably were not comprehending a strategy to interpret the construction of object/array from three- to two-dimensions. The drawing task demanded that four-year-olds suppress all that they knew about objects in favor of salient spatial information necessary to represent the spatial relationships between the objects. The results suggested that the verbal

information that restricted attention to the frontal planes of the objects elicited spatial representation about the array from four-year-olds. When specific spatial features were defined and their relative order described, four-year-olds gave correct spatial responses. Pratt (1985, p. 50) calls "multiple-fixation looks," helpful in restricting the most essential relational information.

Comparisons between experimental conditions indicated that five-year-olds produced more discrepancies in drawing classification than six-year-olds, yet the majority of five-year-olds favored the Unified depiction. Five-year-olds were able to draw the spatial information of the array when given either freedom to handle objects without the intervention imposed by the experimenter. In fact, when asked to draw the wall in front of the house in experimental condition B, most of the five-year-olds were able to draw Unified drawings. The five-year-olds who were given the freedom to manipulate the objects to be drawn, in addition to many verbal cues, and those who were given the minimal instruction to draw the wall in front of the house, performed better than those subjects who were only given many verbal cues. Hardiman and Zernich (1988) state that after a certain level of perceptual understanding, the child will be able to comprehend features about spatial relationships without the aid of adults. The results of the present study seem to indicate the readiness of five-year-olds to understand and depict occlusion without the help of dictation about spatial features.

Six-year-olds had no difficulty in understanding what was expected. Specifically, six-year-olds were able to focus on the frontal plane of the wall and house. The graphic information of overlay was favored. The results imply that the comprehension needed to act successfully on the representation of an opaque object placed behind a transparent object is within the grasp of six-year-olds. The fact that six-year-olds drew far more Unified drawings than any other developmental group indicates a rapid acquisition in drawing skills of spatial representation between the ages of four and six. Further examination is needed to indicate what factors specifically will enrich the spatial representation in the drawing experiences of preschoolers in the range of four to six years of age.

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The Effects of Textual Information on Artistic Communication

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Abstract

Two experiments were conducted on responses to art accompanied by text. Experiment One examined the effects of Stylistic and Mood information on judgments of abstract figurative works in a gallery setting. Naive subjects, including 24 males and 24 females, rated three artworks before and after receiving information and interpreting their meaning. The artworks were judged to be more powerful, challenging, and personally meaningful after subjects wrote interpretations. Experiment Two focused on a comparison of Stylistic and Contextual information in a laboratory setting. Twenty-four males and 24 females, including equal numbers of naive and experienced subjects, viewed 12 sculptures by each of two artists. One artist presents emotionally evocative abstract figures (allegorical narratives), while the other emphasizes intellectually oriented rhetorical images. Subjects rated the artworks before and after receiving either descriptive, formal stylistic, or contextual information in a within-subjects repeated measures design. Figurative works had a major impact after the first viewing, while the reverse was found for rhetorical images. The rhetorical images benefitted in particular from contextual information. Female viewers favored figurative artworks and were receptive to contextual information, and found the analytical stylistic information to be unpleasant. Males preferred rhetorical images along with descriptive and stylistic information.

In everyday processing, physical/sensory properties of stimuli form the building blocks of perception which the brain is hard-wired to detect. These include edges (Hubel & Weisel, 1962), line ends, curvature, tilt, color, brightness (Triesman, 1985), and elongated surface areas (Julesz, 1981). In aesthetic processing, these features group to form the basic constituents of artistic styles (Moles, 1968). Thus, edges and colored surface areas underlie Wolfflin's (1950) distinction between *linear* (i.e., classical) and *painterly* styles, respectively. This contrast between hard-edged and colored surfaces has been shown to be the primary basis for judging stylistic similarity between pairs of paintings (Berlyne & Ogilvie, 1974; Cupchik, 1974; O'Hare, 1976).

In addition to creating distinctive visual effects, artworks attract and sustain attention. The Russian Formalists (Shklovsky, 1988/1917) emphasized the role of novelty in breaking the habits of everyday pragmatic perception and drawing attention to the aesthetic properties of objects. Structural properties of artworks can also be expressively evocative and elicit emotions. Arnheim (1971) has maintained that the structure of forces in artistic compositions have an immediate and dynamic impact on viewers. A similar analysis (Paquin, 1992) has been extended to the evocative effects that an artwork's enclosure (i.e., either a frame or a space) can have on reactions to it.

Museums have made a serious effort to help sensitize viewers to stylistic and expressive qualities through the presentation of textual information in conjunction with artworks. Temme (1992) has shown that information increased enjoyment of seventeenth and nineteenth century Dutch paintings, particularly for museum visitors to the Rijksmuseum in Amsterdam who lacked formal education in art. Based on his research, Temme advised that labels attached to paintings should be brief and to the point only giving information about what is depicted in the artwork. How will textual infor-

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mation affect more experienced museum visitors?

Art critics, who represent the *cognoscenti,* do not necessarily approve the use of such information. Robert Hughes (1993), for example, argues that: "there is something gratingly obtrusive about a museum which is always breaking in, with large interpretive wall labels and audio-visual aids, to tell you what to think about its contents. The 'resounding eloquence' produced by these means may only fill the galleries with portentous or pseudo-populist jabber" (p. 10). In a recent review of the 1993 Biennial Exhibition at the Whitney Museum of American Art, Roberta Smith (1993) states that it "could also be called the Reading While Standing Up Biennial: the art is often heavy with text, even without the simplistic artists' statements featured on many labels" (p. B1). Later on in the review she adds: "(Generally, almost no artist is helped by these ancillary statements of purpose. If they do not grossly exaggerate or simplify the artist's effort, they explain what should be self-evident in the work itself, but is not)" (p. B6).

Clearly there is a need for a comprehensive examination of the role of textual information in artistic communication. Three kinds of information are examined in this study. First, there is formal stylistic information which draws a viewer's attention to stylistic devices that produce visual effects. Second, there is affective or expressive information which provides a sense for the mood or emotions which are evoked by these devices. Third, there is contextual information which locates an artwork within a broader framework of social meaning. For example, in feminist criticism (Chadwick, 1990) artworks provide an occasion to explore the social framework within which they are produced. Similarly, a multicultural approach (Leppard, 1990) goes beyond the pleasurable and entertaining functions of art to show that the arts "can also be redemptive and restorative, critical and empowering" (p. 11).

Experiment One

This experiment, conducted in a gallery setting, explored the effects of information about *style* and *mood* on aesthetic responses. The *stylistic* information included the actual title of the artwork and drew the viewer's attention to two "devices" used by the artist to produce visual effects. The *mood* information comprised an elaborated title and a phrase used by the artist to describe an emotional quality of the piece (see Table 1). It was expected that stylistic information would have more of an impact on cognitively based judgments, while mood information would influence affective judgments.

Method

Subjects

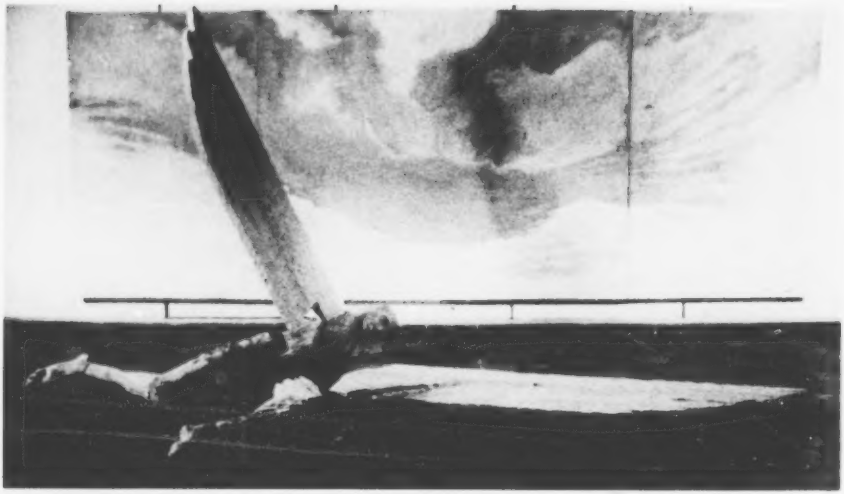
Twenty-four male and 24 female undergraduates from the University of Toronto, without any art background, participated in this study. They were students in the Introductory Psychology class and received course credit for participating in the experiment.

Materials

The three artworks used in the study were selected from among four displayed in the art gallery at the University of Toronto, Scarborough College during the course of a three week long art exhibit. The three works were by Lanny Shereck, artist and art educator from Toronto, Canada. Each piece comprised a 4' x 5' painting with a sculpture set in the area in front of it. The three pieces were formally titled: *Heaven* (see Plate 1), *Earth,* and *Water*.

Artist's Statement. The artist describes his Figurative as *allegorical narratives* in which abstractions are made concrete (Barnet, Berman, & Burto, 1960).

"My work incorporates traditional form-



Heaven by Lanny Shereck

making processes; carving, modelling, and painting. It is all created by my hand as an evolving craft and reflects the influence of personal recollections. My goal is to achieve a unity between form and content using emotions as a vehicle to convey ideas. My work is accessible to all viewers because the motifs are universal and humanistic. The works are all figurative, consisting of large, carved and constructed sculptures in wood (used in these two experiments), and smaller figures modelled in clay and cast into plaster (my more recent work). The larger works tend to be more formal and abstract, emphasizing allegorical meaning (see the *Fallen Angel* in Plate 1). The paintings which are used as backdrops for these sculptures (as in the gallery study reported here) act as counterpoints, furthering the allegorical and narrative possibilities. The smaller plaster figures (not examined in this research project) are more realistic and explore human interactions with broad social/political meaning. In sum, my works embody an allegorical, narrative style because they tell a story about life using characters who have symbolic meaning."

Design

The design comprised one between-subjects independent variable, Gender, and two within-subjects independent variables, Information (three levels) and Rating (Pre- and Post-). The Information factor comprised three conditions (see Table 1): Baseline, Mood Information, and Stylistic Information. In the Baseline condition, no information (beyond the actual title) was given to the subject. In the Mood condition, an elaborated title was given along with a phrase used by the artist to describe one of the piece's emotional qualities. In the Stylistic Information condition, subjects had their attention drawn to two "stylistic devices" that the artist used. The Information factor was counterbalanced with the three artworks across six subject groups within each gender. As a consequence, all possible combinations of Information and artworks were viewed in the study.

The study produced both quantitative and qualitative data. The quantitative data were based on Pre- and Post-judgments of the artworks on five 7-point scales measuring affective (pleasing, powerful),

cognitive (challenging, interesting), and contextual (personally meaningful) judgments. The qualitative data were collected during an Interpretive Task. In this task, subjects were instructed to speculate on how the painting and sculpture in each piece were "visually related" and "related in terms of their meaning."

Procedure

Subjects were brought into the gallery space (28′ x 21.5′) in same-sex groups of four and were informed that

> This study has to do with how people intepret and respond to works of art. We are going to work with three of the four pieces in the exhibition area. Each of the pieces comprises a painting and a sculpture which are related to each other.

On each trial, subjects were instructed to

> Examine this piece carefully. You can walk around and assume different vantage points if you like.

Subjects performed the Pre-rating of the piece on five 7-point scales ranging from 1 (not at all) to 7 (extremely): pleasing, interesting, powerful, challenging, and personally meaningful. They then received information about the piece in accordance with the specified condition (see Table 1): Baseline, Mood, or Stylistic Information.

Subjects were given about 5 minutes to examine the piece and write a 10 line interpretation reflecting

> your personal viewpoint about the relationship between the painting and the sculpture: (1) How are the painting and the sculpture visually related or connected? and (2) How are the painting and the sculpture related in terms of their meaning?

Finally, subjects rated the piece a second time (Post-rating) on the 5 scales.

Table 1. Information Provided to Subjects about Mood and Style

	Title	Mood
Heaven		
Mood Information:	*Heaven: Fallen Angel*	Inner Tension
Stylistic Information:		
1. Notice that the image of wings is present both in the figure and in the sky.		
2. Notice the mechanical treatment of the knees is contrasted with the realistic treatment of the feet and head.		
Earth		
Artist Viewpoint:	*Earth: Struggle*	Threatening or Ominous
Stylistic Information:		
1. Notice how the artist links the animal figures with a single piece of wood to emphasize their connection, while the animals stand on separate bases.		
2. Notice how the dark use of color in the painting gives it weight and creates a strong sense of foreboding.		
Water		
Artist Viewpoint	*Water: Fertility*	Serenity or Peace
Stylistic Information:		
1. Notice the contrast between how the shapes in the painting are carefully outlined, while the inner area is treated expressively with color.		
2. Notice how the artist uses the fish to create a sense of movement in an otherwise static piece.		

Results and Discussion

Quantitative Data. An analysis of variance was performed on the data treating Gender as a between-subjects variable. Information (Baseline, Mood, and Stylistic Information) and Rating (Pre-, Post-) were within-subjects variables. No significant effects were found for the Information variable on any of the scales. One possible reason for this is that each information condition had only a single replication.

However, a number of significant effects were obtained for the Rating variable on four of the affective, cognitive,

and contextual scales (see Table 2). Subjects found the artworks to be more *powerful*, $F(1, 46) = 35.38$, $p < .001$, more *personally meaningful*, $F(1, 46) = 26.13$, $p < .001$, more *challenging*, $F(1, 46) = 20.84$, $p < .001$, and marginally more *interesting*, $F(1, 46) = 3.62$, $p < .06$, after writing an interpretation (Post-rating) than before (Pre-rating). These results suggest that interpretive activity generally enhances a viewer's relationship to an artwork on affective and cognitive dimensions. The findings are consistent with a constructive rather than an information theory approach to appreciation. However, a proper comparison between interpretation and no-interpretation conditions (with or without information) is necessary in order to arrive at any causal conclusions.

Two effects were also obtained involving the Gender variable. Females ($M = 4.29$) generally found the artworks to be more *pleasing*, $F(1, 46) = 5.73$, $p < .02$, than did the males ($M = 3.66$). In addition, an interaction of Gender and Rating (Pre-, Post-) was obtained, $F(1, 46) = 3.99$, $p = .05$, on the *challenging* scale. Results show that, initially, females ($M = 4.39$) found the artworks to be less challenging than did the males ($M = 4.86$). However, after performing the interpretive task, females ($M = 5.03$) and males ($M = 5.11$) found the artworks to be very similar on this dimension.

The reason why these naive female viewers gave the lowest pre-rating of the artworks on the "challenge" scale is not immediately apparent. One possibility is that the naive females discerned the figurative and affective qualities of these artworks very quickly. Past research (Cupchik & Gebotys, 1990) has shown the sensitivity of naive females to the emotional tone (i.e., warm-cold quality) of artworks. The ready accessibility of these qualities might have made them appear less challenging. However, engaging in the interpretation task may have led to a deeper appreciation of the depth and *challenge* posed by the artworks.

Table 2. Pre- and Post-ratings of Three Artworks in a Gallery

Scale:	Pre-rating	Post-rating
Interesting-Uninteresting	4.97	5.20†
Weak-Powerful	4.28	4.91***
Challenging	4.63	5.07***
Personally Meaningful	3.53	4.33***
Unpleasant-Pleasant	3.92	4.03

† = $p < .10$, *** = $p < .001$

Qualitative Data. The qualitative data were examined by the artist to obtain feedback regarding how viewers responded to his artworks. Three general categories of response were observed (see Table 3) in the subject protocols: description, metaphor, and context (related either to self or the outside world). These findings helped shape the choice of conditions in Experiment Two.

In conclusion, the findings of Experiment One suggest that interpretive activity enhances a viewer's perception of art on affective (powerful), cognitive (interest, challenge), and contextual (personally meaningful) dimensions. Artworks are not like mathematics problems which become less challenging and interesting once solved. Interpretive activity seems to help viewers appreciate the rich complexity of artworks. It should be noted that emotion and intellect are closely related. The perceived powerfulness of an artwork is related both to its challenging quality and to its personal relevance.

These findings are consistent with an emphasis on the active construction of meaning rather than the mere selection of information (Schmidt, 1982). Gombrich (1965) anticipated this trend by stating that art appreciation involves the ongoing elaboration of meaning in an "open" and "indeterminate" image. This is consistent with the recent emphasis by cognitive psychologists on "elaboration" and deeper "levels of processing" (Craik & Lockhart, 1972; Lockhart, Craik, & Jacoby, 1976). One indication of more elab-

Table 3. Sample Comments Regarding the Meaning of *Heaven*

Description

The fact that the sculpture is lying on the floor adds to my thinking that it has fallen, as it looks to be in an unbalanced state. (literal inference)

The sculpture lying on the ground, wings outstretched and legs "as if still in motion" in front of the picture of the sun in the sky obstructed by clouds, depicts a fallen angel to me.

Metaphor

This creature represents the good in all mankind because the wings appear to be symbolic of an angel. In much the same way, in the picture the light represents good, whereas the dark represents evil.

Just as the angel has no bounds to fly in the sky, the sky has no bounds either. Together, they create a pleasant atmosphere which seems to be perfect. Thus, it is ironic that such perfection can be in an imperfect world of problems and chaos.

Context

The dark clouds represent the corruption, pollution, and hunger. The sunshine is masked by these clouds and this represents the little good left in our world.

The sculpture represents man and his need to discover, also his hunger for power. He sees the wings in the sky and needs to have some of his own to fly, or die trying. He feels he'll be more powerful with wings. This could also represent his mind (imagination) and the need for it to be free.

orate processing is a heightened appreciation of the interpretive challenge posed by an artwork.

Experiment Two

This experiment examined the distinction between *stylistic* and *contextual* information. As explained earlier, stylistic information is consistent with a formalist approach that emphasizes the effects of stimulus qualities on intellectual and emotional responses. However, in this experiment the stylistic information incorporated a description of the evocative effects of the artworks. Contextual information, on the other hand, helps to establish a link between ideas in an artwork and the physical or social world to which they refer.

The role of stylistic and contextual information was examined in relation to two very different artistic styles. One style (Lanny Shereck) is figurative and explores allegorical narratives founded on emotional experience. The second style (Stacey Spiegel) involves larger pieces which are meant for public spaces and incorporate scientifically based ideas. These artworks can be described as rhetorical images because they embody complex layers of meaning and ironies.

Method

Subjects

Twenty-four naive and 24 experienced art students at the University of Toronto, Scarborough College, including equal numbers of males and females in each group, participated in the experiment. The naive subjects had no background in art and did not attend art exhibits. They were drawn from the introductory psychology subject pool and received course credit for participating in the study. The experienced students had completed at least three courses at the university in either art history or studio. They were paid $10.00 for participating in the study.

Materials

Slides of twelve artworks were provided by each of the artists. The twelve pieces studied in this second experiment included three used in Experiment One. Lanny Shereck's approach to artmaking was described in Experiment One.

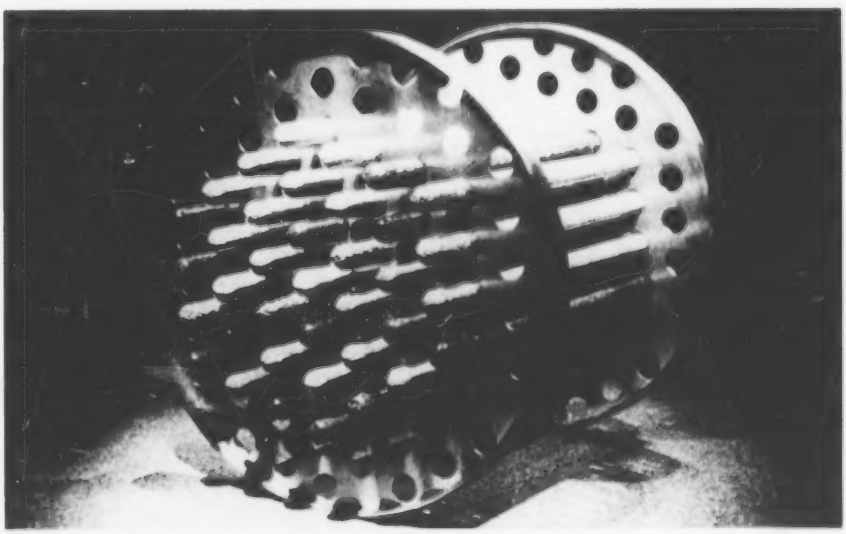
Stacey Spiegel. A show of his work at the Art Gallery of Hamilton in 1992 was reviewed in *Canadian Art* (Van der Spek, 1992).

> With a deft economy of means, the artist conveys the human desire to harness the forces of nature. In *Reactor Core* (1991) [see Plate Two] thirty-seven Pyrex tubes are positioned horizontally between two large aluminum discs. The tubes are filled with varieties of seeds which together represent the agricultural resources in southern Ontario. By linking the miraculous potential of seeds with a structure that alludes to hazardous interventions in natural processes, Spiegel brings about a jarring confrontation of materials and ideas. . . . [C]reative and destructive forces are called to mind — but in this case destruction is associated with distinctively human impulses. The two sides of this exhibition offer complementary meditations on states of flux. . . . [T]he sculptural works express change engineered through human wilfulness. Together they call for a renewed accountability in relation to the environment; not only for humility in the face of cataclysmic forces, but for responsible intervention in the social world. (Van der Spek, 1992, pp. 69)

Design

The experiment included two between-subjects variables, Gender and Background (Naive, Experienced), and three within-subjects variables, Artistic Style (Figurative, Rhetorical), Information (Descriptive, Formalist [i.e., Stylistic], and Contextual), and Rating (Pre-, Post-). The two artistic styles contrasted Figurative (Allegorical Narratives) and Rhetorical Images with a differential emphasis on emotional and cognitive processes, respectively. There were three kinds of information: (1) mere description which provided a simple listing of some physical features of the artworks, (2) formal stylistic information which related internal qualities of the artworks to evocative effects, and (3) information which related the artworks to a broader social context of meaning (see Table 4). Three subgroups (four subjects each) were generated within the (four) Gender x Background groups so that each kind of information could be presented with each artwork to at least four subjects.

Both quantitative and qualitative measures were obtained. The quantitative measures included Pre- and Post-ratings of the sculptures on eight 7-point scales measuring affective (pleasure, expres-



Reactor Core by Stacey Spiegel

sive, and weak-powerful), cognitive (challenging, interesting, simple-complex), and contextual (socially relevant, personally meaningful) judgments. One additional scale measured how helpful viewers found the information provided about the sculptures (Part Two only). Qualitative data were obtained from responses to the question: What else can you say about the meaning of the sculpture? Seven lines were provided for this response.

Procedure

This experiment was conducted in a laboratory using slides of artworks. Subjects were run in groups of four and were told about the sculptures of the two artists.

> One artist produces sculptures that sell through art galleries for display in the home. The sculptures made by the other artist are designed for public places, such as parks and large buildings. We are interested in the process of communication between artist and viewer.

In Part One of the experiment, subjects were presented with the 24 sculptures in sequence. Three sculptures by the two artists were presented in a randomized order within each block of 6 trials. On each trial, a slide of the sculpture was presented for 30 seconds. Subjects were instructed to "examine" each sculpture and rate it (Pre-rating) on the set of eight 7-point scales. In Part Two the sculptures were shown a second time in the same order and each piece was accompanied on the right side of the slide screen by "written information supplied by the artist." Subjects were instructed to "read this information and examine the sculpture in the light of it." Subjects then rated each sculpture again (Post-rating) on the eight 7-point scales, and also indicated how helpful the information was for appreciating the sculpture. Subjects were asked not to compare their Pre- and Post-ratings of the artworks. Finally, subjects were given two minutes to "offer [their] own interpretation of the meaning of the sculpture" by writing in the answer booklet.

Table 4. Descriptive, Formalist, and Contextual Information for One Piece by Each Artist

LANNY SHERECK: HEAVEN (see Plate 1)

Descriptive. The figure is of an angel, carved and constructed in wood, which has been left unfinished. The painting in the background offers a panoramic skyscape filled with storm clouds and sunlight breaking through from behind.

Formalist. The head and feet of the angel are relistically carved, while the legs and parts of the torso are left unfinished, providing a sense of the figure emerging from the material. The wings and legs are assembled to the torso giving it a mechanical quality. The clouds, with their wing-like configuration, float in mocking contrast to the grounded angel.

Contextual. Like the Icarus myth, the unfinished figure of an angel symbolizes imperfect humanity hampered from achieving its ideals.

STACEY SPIEGEL. REACTOR CORE (see Plate 2)

Descriptive. Thirty-senen glass tubes, each one filled with a single species of seed representing what was grown in 1990. These seeds are permanently sealed and set into an aluminum reactor-like structure.

Formalist. The structure is like a reactor core in a nuclear power plant with agricultural seeds filling the fuel tubes. The contrast is between man-made and natural energy systems.

Contextual. The sculpture looks at the relationship between natural power systems (the seeds in the tubes) and a man-made system (the aluminum nuclear reactor core). The fuel rods of a reactor usually portend poison rather than the renewal implied by the seeds.

Results

Relations Among the Rating Scales

Subjects rated the artworks twice (Pre- and Post-rating) on eight 7-point scales. Four scales; pleasant-unpleasant, interesting-uninteresting, weak-powerful, and

complex-simple, had their end points anchored by the word "extremely." Four other scales; expressive, socially relevant, personally meaningful, and challenging, had the words "not at all" (1) and "extremely" (7) as their end points. One additional question, administered in the Post-rating phase, concerned the extent to which the information fostered an appreciation of the sculptures (1 = "not at all helpful," 7 = "extremely helpful").

Reliability Coefficient. One salient feature of the data was the consistency of rank orders for the twelve artworks (from each artist) across the nine scales. Thus, if a particular artwork was either high or low on one scale, it occupied a similar position on the others. This was reflected in strong reliability coefficients (alphas) for the Figurative (.92) and Rhetorical (.96) sets of artworks. The stability of ranks implies that the scales were interrelated and that viewers judged the artworks in a coherent manner.

Factor Analysis. A factor analysis was performed to further examine relations among the scales using mean ratings of all 24 artworks on the nine scales (collapsing across Pre- and Post-ratings on eight of the scales). A two-factor solution was accepted which accounted for 79% of the variance (see Table 5). Factor 1 (Eigenvalue = 5.57) had its strongest loadings on challenging, powerful, interesting, expressive, personally meaningful, and socially relevant scales. Factor 2 (Eigenvalue = 1.52) had its highest loadings on simple, personally meaningful, and expressive, with a deemphasis on the value of information about the artworks. These factors are comparable to a contrast between the *challenge* value of the artworks and a *spontaneous subjective* response to them.

Table 5. Factor Analyses of 9 Scale Ratings of 24 Artworks

Scale:	Factor 1	Factor 2
Weak-powerful	.97	
Interesting-uninteresting	−.96	
Expressive	.92	.34
Challenging	.86	
Personally meaningful	.84	.56
Socially relevant	.70	
Pleasant-unpleasant	−.48	
Complex-simple	−.53	.63
Helpful information	.48	−.52

Analysis of variance

A series of analyses of variance (ANOVA) were performed treating Gender and Background (Naive, Experienced) as between-subjects variables, and Artistic Style (Figurative, Rhetorical), Information (Descriptive, Formalist, and Contextual), and Rating (Pre-, Post-) as within-subjects variables. The dependent measures were ratings on the eight 7-point scales. The results are presented in sequence in terms of the effects observed for the independent variable across the set of scales. For the purpose of data presentation, the scales were aligned so that the number 7 represents the highest point (e.g., pleasant-unpleasant changed to unpleasant-pleasant) on all of them. One additional ANOVA (without a Rating variable) was undertaken to examine the helpfulness of the information that was provided.

Artistic Style Effects. Significant interactions of Artistic Style and Rating (Pre-, Post-) were found on six scales: *expressive*, $F(1, 44) = 16.21$, $p < .001$, *interesting*, $F(1, 44) = 7.65$, $p < .01$, *complexity*, $F(1, 44) = 15.40$, $p < .001$, *challenging*, $F(1, 44) = 9.64$, $p < .003$, *socially relevant*, $F(1, 44) = 73.69$, $p < .001$, and *personally meaningful*, $F(1, 44) = 17.21$, $p < .001$. The results in Figure 1 should be read in the following manner. Bar graphs entries to the right of the 0 point reflect higher Post-ratings, while numbers to the left of the 0 point represent higher Pre-ratings.

The data show that Figurative art was judged higher in the Pre-ratings on the affective (expressive) and cognitive (interesting, complexity, and challenging)

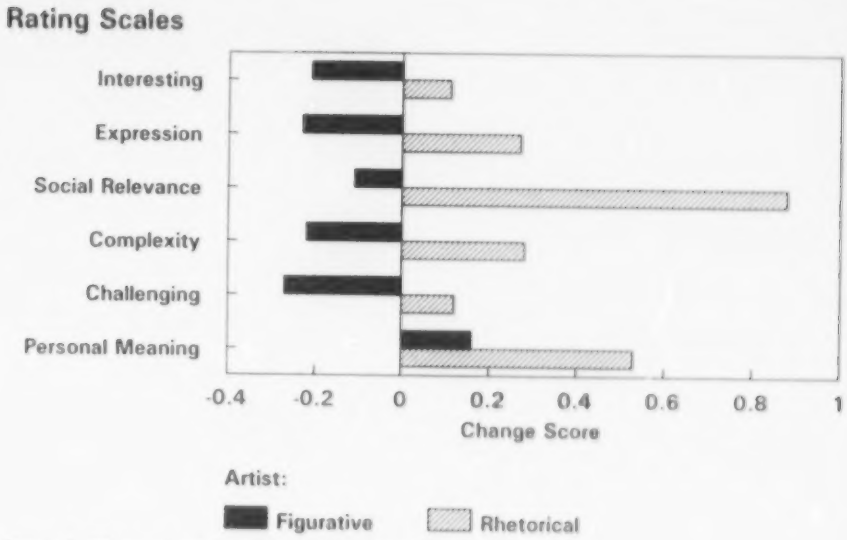


Figure 1. *Effects of artistic style on sculpture ratings.*

scales. This is consistent with the idea that the narrative and emotional qualities of the Figurative artworks make them immediately accessible to viewers. Rhetorical art was generally judged higher in the Post-ratings, particularly on the contextual scales (socially relevant and personally meaningful). A second viewing, and some verbal information, enabled subjects to locate the Rhetorical artworks within a meaningful frame of reference.

Background Effects. Significant interactions of Background and Artistic Style were obtained for four scales: *social relevance*, $F(1, 44) = 8.27$, $p < .006$, *complexity*, $F(1, 44) = 11.31$, $p < .002$, *challenging*, $F(1, 44) = 11.68$, $p < .001$, and *powerful*, $F(1, 44) = 9.42$, $p < .004$. The results in Figure 2 show the extent to which Naive or Experienced viewers favored Figurative or Rhetorical art, collapsed across the Pre- and Post-rating periods. Bar graph entries to the right of the 0 point indicate the artistic style favored by Experienced viewers and entries to the left of the 0 point show the style favored by Naive viewers on the four scales.

In general, Naive viewers judged the Figurative art to be more powerful, complex, and socially relevant. It is not surprising that these subjects should respond to art that is immediately accessible (i.e., related to Factor 2 — spontaneous subjectivity). Experienced viewers, on the other hand, perceived the Rhetorical artworks to be more challenging, powerful, complex, and socially relevant. These were the artworks that required additional viewing time in order to be appreciated (related to Factor 1 — challenging). Thus, affective, cognitive, and contextual dimensions of judgments were closely linked for both groups but were associated with different kinds of art.

A three-way interaction of Artistic Style, Background, and Rating (Pre-, Post-), $F(1, 44) = 8.17$, $p < .007$, was found on the *unpleasant-pleasant* scale. Naive viewers found the Figurative art more pleasing (mean change = +.11) and the Rhetorical art less pleasing (mean change = −.09) after the second viewing. In contrast, Experienced viewers judged the Rhetorical art more pleasing (mean change = +.18) and the Figurative art

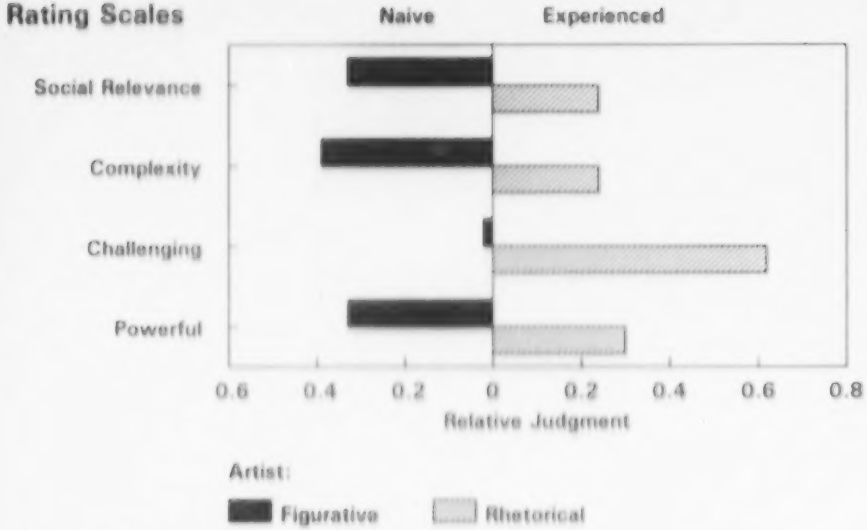


Figure 2. *Effects of background on sculpture ratings*

less pleasing (mean change = −.19) after the second viewing. Both subject groups found their preferred artistic style to be more pleasing after a second viewing, and the reverse was found for the least preferred style.

A significant interaction between Background and Artistic Style was found for the *information* scale given in the Post-rating period, $F(1, 44) = 5.26$, $p < .03$. For the Rhetorical set of arrworks, Experienced viewers ($M = 4.77$) found the information more helpful than did the Naive viewers ($M = 4.27$). No difference was found between the Experienced ($M = 3.93$) and Naive ($M = 4.00$) viewers when it came to the Figurative artworks. It is logical that Experienced viewers, who prefer the Rhetorical Style, would find information helpful because it further elucidates the meaning of these pieces.

Information Effects. Significant interactions of the Information (Descriptive, Formalist, Contextual) and Raring (Pre-, Post-) variables were found for six of the scales; *powerful*, $F(2, 88) = 9.40$, $p < .001$, *expressive*, $F(2, 88) = 11.21$, $p < .001$, *challenging*, $F(2, 88) = 8.55$, $p < .001$, *interesting*, $F(2, 88) = 7.59$, $p < .001$, *personally meaningful*, $F(2, 88) = 12.80$, $p < .001$, and *socially relevant*, $F(2, 88) = 24.84$, $p < .001$. The results in Figure 3 show the effects of the three kinds of information as either increasing (bar graph entries to the right of the 0 point) or decreasing (bar graph entries to the left of the 0 point) ratings. Descriptive Information decreased ratings on the affective (powerful and expressive) and cognitive (challenging and interesting) scales; it served to banalize the pieces. Contextual information generally had an enhancing effect, but particularly for the scales representing external meaning (socially relevant and personally meaningful). Formalist information had a mixed effect; it enhanced judgments on a cognitive scale (interesting), but decreased ratings on the affective scales (powerful and expressive). A possible basis for this latter effect is suggested in the gender data.

A significant interaction of Information and Artistic Style, $F(2, 88) = 11.82$, $p < .001$, was found for the *information* question. The results in Figure 4 show

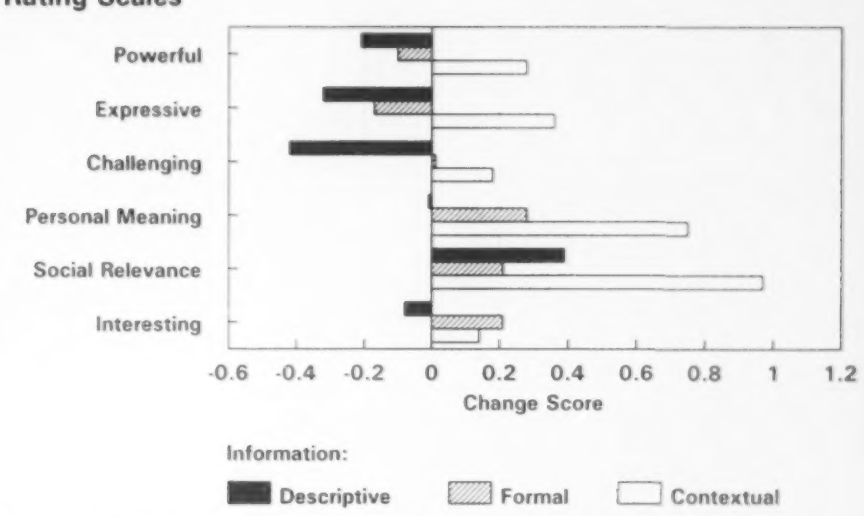


Figure 3. *Effects of information on sculpture ratings.*

that Descriptive information was least helpful for the Figurative artworks, suggesting that their qualities could be immediately decoded. Formalist and Contextual information were rated as increasingly helpful for the Figurative artworks. For the Rhetorical artworks, Contextual Information was most helpful, while no difference was found between the Descriptive and Formalist information. The contextual information provides a valuable link between the challenge posed by the pieces and the environment (both physical and social) to which they refer.

Gender Effects. Significant interactions of Gender and Artistic Style were found for five scales: *pleasure*, $F(1, 44) = 6.45$, $p < .02$, *socially relevant*, $F(1, 44) = 4.23$, $p < .05$, *personally meaningful*, $F(1, 44) = 5.36$, $p < .03$, *challenging*, $F(1, 44) = 3.85$, $p < .06$, and *interesting*, $F(1, 44) = 8.01$, $p < .007$. In Figure 5, bar graph entries to the right of the 0 point indicate the artistic style favored by female viewers, and entries to the left of the 0 point show the style favored by male viewers on the five scales. The results show that females generally favored the Figurative artworks on the affective (pleasure), cognitive (challenging and interesting), and contextual (socially relevant and personally meaningful) scales. Males found the Rhetorical artworks to be somewhat more cognitively interesting and challenging.

A significant interaction between Gender and Artistic Style was also found for the question inquiring about helpfulness of the *information*, $F(1, 44) = 4.16$, $p < .05$. Information about the Figurative artworks was more helpful for the females ($M = 4.22$) (who generally preferred that style) than for the males ($M = 3.71$). No difference was found between males ($M = 4.51$) and females ($M = 4.52$) viewing the Rhetorical artworks.

A significant interaction of Gender, Information, and Rating (Pre-, Post-) was found, $F(2, 88) = 4.81$, $p < .01$, on the *pleasant-unpleasant* scale. Female viewers found the artworks more pleasing after receiving Contextual information (mean change = +.14), and less pleasing after receiving Descriptive (mean change = −.06) and Formalist (mean change = −.31) information. In contrast, male view-

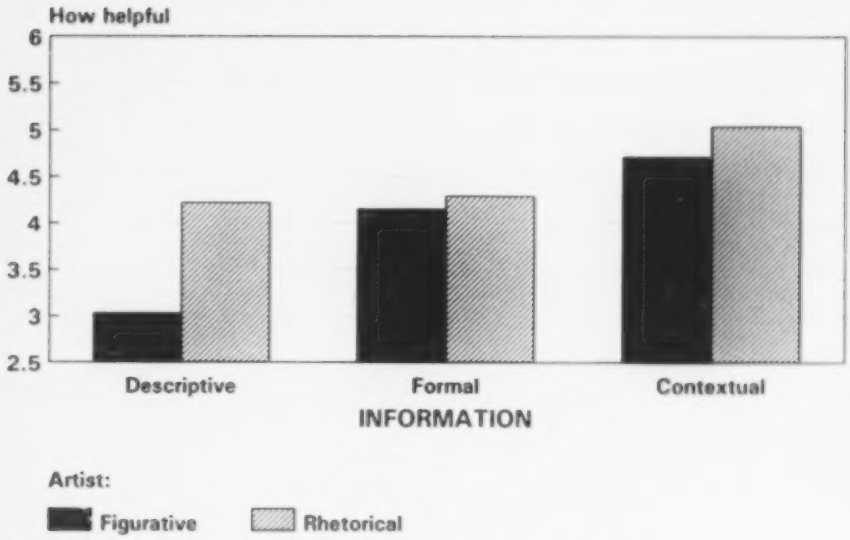


Figure 4. *Helpfulness of information given artist's style.*

ers found the artworks more pleasing after receiving the Descriptive (mean change = +.20) and Formalist (mean change = +.14) information, and less pleasing after receiving the Contextual (mean change = −.09) information. Female viewers appear more receptive to receiving input about the broader meaning of an artwork, while males are more disposed toward internal and analytical information. The aversion of females to the Formalist information suggests that its analytical quality may diminish the evocative value of the artworks.

Qualitative Data

The written comments given by the subjects in response to the question "What else can you say about the meaning of the sculpture?" (7 lines maximum) were content analyzed. Five categories were distinguished including positive or negative comments about (1) the artwork, (2) the information, (3) and the meaning of the piece. In addition, the written material was scored for references to (4) the self and to (5) the world. The frequency of the different kinds of comments was scored for each subject and summed across the 24 artworks. ANOVAs were performed for the Piece, Information, Meaning, and Self dependent measures, treating Gender and Background as between-subjects variables, and Comment (positive or negative) as a within-subjects variables. The ANOVA for the World measure included only the between-subjects variables.

A significant interaction of Gender and Background was found for the *Piece* measure, $F(1, 44) = 4.56$, $p < .04$, showing that Experienced females ($M = 3.04$) made more comments about the artworks than did Naive females ($M = 1.33$), while the reverse was obtained for Experienced ($M = 1.88$) and Naive ($M = 2.21$) males. A second Gender x Background interaction was obtained for the World measure, $F(1, 44) = 10.55$, $p < .002$, which related artworks to the broader context. Naive females ($M = 10.33$) made more comments about the world than did Experienced females (M

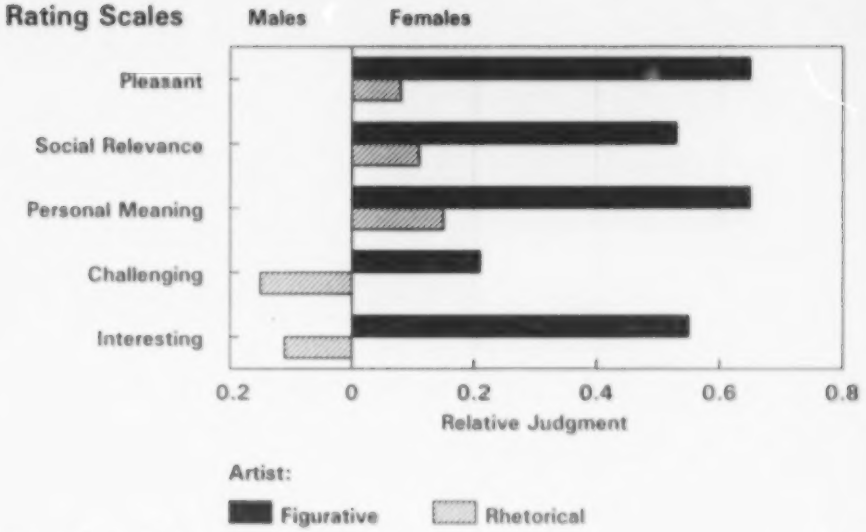


Figure 5. *Effects of gender on sculpture ratings.*

= 3.33), while a much smaller difference was found between the Naive (M = 4.75) and Experienced (M = 5.25) male viewers. Together, these results show that Experienced females concentrated on the artworks, while Naive females emphasized their external meaning.

In relation to the Comments measure, a Gender x Comment (positive, negative) interaction was found, $F(1, 44) = 4.75$, $p < .04$, for statements about the *pieces*. Females generally made more positive (M = 2.75) than negative (M = 1.63) comments about the pieces, while males generally gave more negative (M = 2.29) than positive (M = 1.79) comments. The presence of negative comments might reflect a defensive rejection of the artworks.

A similar kind of defensive response may have been expressed regarding the information given to the subjects. A significant interaction was found for Background and Comment, $F(1, 44) = 5.34$, $p < .03$, on the *information* measure. Naive viewers offered more negative (M = 1.13) than positive (M = .71) comments about the information, while Experienced viewers made more positive (M = 3.00) than negative (M = 1.71) comments. This is not surprising given a significant main effect for the Background variable, $F(1, 44) = 4.48$, $p < .04$, on the *self* measure. Naive viewers (M = 1.04) commented more about themselves in relation to the artworks than did the Experienced (M = .52) viewers. Thus, information about the pieces may have intruded into a self-focused attitude and produced negative feelings.

Discussion

The experiment provided some insight into cognitive and affective processes in art appreciation. A factor analysis (Experiment Two) contrasted responses to the artworks founded on aesthetic challenge with simple and immediate responses to expressiveness. This echoes previous research (Cupchik & Gebotys, 1990) in which the roots of pleasure were tied to "aesthetic effectance" (complex and meaningful stimulus properties) and "emotional arousal" (simple, low inten-

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sity, and warm stimulus properties). It also reflects fundamental differences in general beliefs about art (Winston & Cupchik, 1992) which contrast the importance of "interpretive challenge" and the "experience of pleasure."

The data reveal what happens when artworks are examined which differentially emphasize emotional and intellectual themes. The Figurative artworks created by Lanny Shereck offer an abstract treatment of basic human emotional themes. Stacey Spiegel's Rhetorical images have a strong compositional force derived from the association of aesthetic elements. The underlying ideas represent layers of processes derived from natural phenomena juxtaposed against scientific models and are intellectually challenging.

In line with these characterizations of the two styles, the Figurative art received higher ratings on expressive and cognitively oriented scales after the initial viewing when their immediate potency could have maximal impact. Merely Descriptive information distracted viewers from the potency of the artworks and reduced their impact on second viewing, while both Formalist and Contextual information enhanced ratings. The Rhetorical art received higher ratings after the second viewing, particularly for scales which addressed external contextual meaning, socially relevant and personally meaningful. Contextual information was very useful because it helped viewers appreciate the contrasting layers of meaning in these works and interpret them in relation to the self and the external world.

In general, Descriptive information reduced affective (powerful and expressive) and cognitive (challenging and interesting) ratings of the artworks. Presumably the mere descriptive cataloguing of features banalizes artworks in the eyes of viewers. Formalist information made the artworks appear more interesting by elucidating their internal dynamic structures. However, the finding that Formalist information also reduced affective ratings (powerful and expressive) was somewhat surprising. One possibility is that this kind of information isolates particular visual effects and diminishes the perceived potency of the artworks by fractionating them. The Contextual information provided an external frame of reference and had a generally facilitative effect for ratings on the personally meaningful and socially relevant scales.

The three clusters of scales, cognitive (challenging, complex, and interesting), affective (pleasure and expressive), and contextual (personally meaningful and socially relevant) collectively shaped judgments by the Naive and Experienced subject groups. Naive viewers judged the Figurative art to be more powerful, complex, and socially relevant, while Experienced viewers said the same thing about Rhetorical art (and also rated it as more challenging). Naive viewers revealed a preference for immediately accessible art that is in line with their demonstrated orientation toward literalism in art, while Experienced viewers responded to the interpretive demands posed by the artworks (Cupchik & Gebotys, 1988; Winston & Cupchik, 1992).

The preferred style of the two groups was found even more pleasing after the second viewing, while the reverse was obtained for the less preferred style. Thus, Naive viewers increased their pleasingness ratings of the Figurative artworks and decreased these ratings for Rhetorical artworks after the second viewing; the reverse was obtained for Experienced viewers. The results for Naive viewers reinforce those obtained in Experiment One in which the Naive subjects rated the Figurative artworks higher on the same affective, conceptual, and contextual scales which were significantly affected in Experiment Two. Experienced viewers, on the other hand, readily extracted information which is available in the Figurative artworks, while the conceptual basis for the Rhetorical pieces required more in-depth consideration. For this reason, Experienced viewers found

the information provided about the Rhetorical artworks to be more helpful than did the Naive viewers.

The qualitative data showed that Experienced viewers gave more positive than negative comments about the artworks, while the reverse was found for Naive viewers. Further, Naive viewers commented about the artworks much more in relation to the self than did Experienced viewers. The implications of these negative comments merits further investigation. Do they merely reflect the negative emotion that viewers experienced in response to the artworks, or do they represent a defensive reaction to the elusiveness of aesthetic meaning?

The Gender based results showed that females generally favored the Figurative artworks on affective, cognitive, and contextual scales, while males judged the Rhetorical artworks to be somewhat more cognitively interesting and challenging. Consistent with this, females were more receptive to information relating to the Figurative works. Females generally found the artworks more pleasing after receiving contextual information, while the reverse was obtained for males. Female viewers found the artworks much less pleasing after receiving the formalist information, while males were positively affected by both the descriptive and formalist information. These data show that females do not like the analytical effect of Formalist information, while males are less oriented toward the broader social meaning of the artworks.

In relation to a concern for the broader meaning of the pieces, Naive females provided the greatest number of comments relating the pieces to the broader social context. Experienced females, however, offered the greatest number of comments about the pieces than did any other group. This is consistent with an earlier finding that Experienced females spend a great deal of time scrutinizing the stylistic features of artworks (Cupchik, Winston, & Herz, 1992). Differences between Naive and Experienced females tend to be greater than for the same two groups of males (see Cupchik & Gebotys, 1990). This may reflect a greater flexibility that experienced females have for either responding to the emotional qualities of artworks, or adopting a detached stance.

In summary, this study demonstrated the value of working closely with two artists to explore viewer responses to their artworks and accompanying texts. Their contrasting styles provided a dynamic which expressed itself in all facets of the data. The interaction of artistic style with information was reflected in viewer ratings on the affective and cognitive scales. Gender and background differences were found to mediate viewer responses to the artworks. Finally, this study shows the value of incorporating artists as active collaborators in the research process.

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Facilitating Cooperative Art Museum-School Relationships: Museum Educators' Suggestions

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Abstract

The purpose of this article is to present art museum educators' suggestions for establishing cooperative art museum-school relationships. This information is based on a 1990 national survey examining the status of art museum-school relationships. An earlier article presented results of closed-ended items (author, 1992); this article extends this information by discussing art museum educators' responses to an open-ended item that was part of the survey study.

The results of the open-ended response indicate that art museum educators think there is a need for schools to value and utilize the art museum as a resource. Furthermore, museum educators articulated the need to support teachers in the use of this resource and provided ways for establishing cooperation and communication between art museums and schools. These results are in keeping with articulated concerns in the literature that the art museum is viewed as an enrichment rather than an integral component of education.

The recently published report — *Excellence and Equity: Education and the Public Dimension of Museums* (1992) by the American Association of Museums asserted the centrality of education to the mission of the museum in all aspects of public service. This report challenged museum professionals to establish the museum as vital and relevant to contemporary life highlighting its place in relationship to educational institutions. It stated the following: "museum relationships with schools and universities, in particular, have great future potential as new curriculum efforts call for a strengthening of the sciences, arts, and humanities" (p. 9). *Excellence and Equity* recommended that museum professionals "strengthen relationships with administrators, school boards, and other educators to develop better museum-school partnerships beginning at the state and local policy-making levels" (p. 20). The significance of the museum relative to schools is underscored in this report. The time appears ripe to explore how to establish links between museums and schools.

While museum-school relationships are becoming increasingly important, there is a lack of current quantitative data for guiding their development. The information in this article is based on a national survey of art museum educators undertaken in 1990 designed to investigate the status of art museum-school relationships; results of closed-ended items were reported in an earlier article (author, 1992). The material presented here extends this information by discussing art museum educators' responses to an open-ended question asking for ways schools could better facilitate cooperative relationships with art museums. These results, while they apply to schools in general, are relevant to art education in particular. Art specialists are in a key position to develop an awareness of the art museum's benefits. The information discussed in this paper could assist art specialists in promoting the art museum and establishing relationships with these institutions.

Method

Subjects

The survey included 284 art museum professionals working in a variety of art museums listed in the *Official Museum Directory 1989*, published by the American Association of Museums in 1988.

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Instrument

A 23 item questionnaire was used to collect the data; the instrument included both closed and open-ended items. The development of the instrument was based on: a literature review, interviews with museum educators, and a field-testing process. Items requested information from respondents about the resources and services provided to schools and teachers, the participation of school professionals in the planning and offering of school programs, and the existence of relationships between art museums and school districts.

Procedure

The questionnaire accompanied by an explanatory cover letter was sent to 870 art museum professionals. Six weeks later this process was repeated for non-respondents. A total of 429 questionnaires were returned and a response rate of 49% was achieved; 145 were removed because responses were either incomplete or were different enough from the rest of the sample to warrant their removal.

Closed-ended items were analyzed and presented in the earlier paper (author, 1992). An open-ended item, which queried respondents about the development of art museum-school relationships, provided the basis for this article. The item read as follows: "How can schools better facilitate cooperative relationships with the art museum?" A total of 219 art museum educators responded to this item. Responses were analyzed for patterns in respondents' comments; categories were identified and responses were then coded. For each category, frequencies and percents are given along with respondents' comments that illustrate the category discussed.

Results

Value and Utilize the Art Museum

Forty-two percent (f = 92) of art museum educators said that teachers and school administrators needed to value and utilize the art museum. In particular, the art museum should be viewed as an important educational resource. The words of one respondent reflects this idea: "take the time and effort to reach out to it [the art museum] and recognize that collections and professional staff can be powerful supportive influences on the curriculum and the classroom teacher." Valuing the art museum also means taking an interest in it, that is, taking an interest in the resources and services it has to offer. Making inquiries of available programs and getting to know the collections of an art museum are two important ways of taking an interest. Integrally related to valuing the art museum is utilizing its resources on a regular basis. To accomplish this, respondents suggested that school districts commit to the use of the art museum for at least one grade level. In other words, tours could be given to students in specific grades for the school year. Another way to ensure the use of the art museum is to incorporate the museum into the school curriculum. The inclusion of the museum in the curriculum would encourage teachers to consider it.

Respondents saw the need for administrative support in order to promote the art museum. This is articulated in the following quote:

> Schools can facilitate relationships by establishing Museum-school cooperation as an administrative priority. If administrators recognized the importance of working with Museums, provided teachers with release time to attend meetings and in-services and offered incentives for teachers to participate, then better district-wide relationships would be developed.

Respondents also thought political support is required for establishing the im-

portance of the art museum. In the opinion of one respondent:

> Political support of museums as centers of educational resource. . . . Let local, state and national leaders know these resources are needed, absolutely essential to the complete socialization and maturity of their charges; and that positive experiences such as the arts are worthy of fiscal support.

Support Teachers for Utilizing the Art Museum

A total of 39% (f = 85) said that teachers needed to be supported for using the art museum. Support was defined in a variety of ways. Release time was one type of support. In the opinion of respondents, teachers' schedules, especially those of art specialists do not allow visits to the art museum. Moreover, schedules prevent teachers from attending meetings at art museums that are relevant to school programs. Another kind of support is resources for field trips. Resources would cover transportation and monies for entrance fees. Finally, respondents suggested teacher training as an important kind of assistance. It was suggested that teacher training could be provided through recertification and in-service work. How to use the resources of an art museum should be central to this training.

Establish Cooperative Efforts and Communication

Fifty-five percent of respondents (f = 120) said that it was important to establish cooperative efforts and communication. One art museum educator explained this need in the following manner:

> Schools can better facilitate cooperative relationships by taking advantage of programs that the museum currently offers and by developing a relationship with museum staff so that communication can occur. Out of this communication will hopefully come ideas as to the best possible utilization of school and museum resources for the best educational experiences for the students involved.

The ways that schools and teachers could promote cooperative efforts are as follows:

1. Engage in joint program planning with art museum educators.
2. Include museum educators on committees, school boards, and in school events.
3. Participate in school programs.
4. Furnish monetary resources for museum programs and services.
5. Prepare for museum field trips by instructing students before and after the museum visit and manage their behavior.

Respondents offered several strategies to establish communication. First, teachers could provide feedback on school programs. Second, teachers could articulate their needs and ideas. Third, a liaison between the school and an art museum facilitate the exchange of communication between these institutions. Communication could contribute to more successful programs according to an art museum educator. "The schools need to communicate with the museum professionals so that they can understand what we have to offer, and we can learn about how to present the information in a more effective manner."

Support Art Education

Almost one-fifth (% = 16, f = 34) suggested that art education needed to be supported in the schools. The provision of art specialists and art supervisors in the schools was seen as important as well as the district-wide adoption of an art curriculum that it implemented with the assistance of an art curriculum coordinator. Respondents noted that school administrators did not view art education as a priority, perhaps due to a general

lack of knowledge about art. This attitude is passed to classroom teachers and the appreciation of art, as a result, is not valued as an important activity. One respondent commented: ". . . school boards and administrators need to be 'art smart' and feel it is important for a well rounded education." Similarly another respondent pointed out that:

> A more effective relationship would exist if the School Board, the Superintendent, *etc. really* believed that *all* children need good training in the arts and believed the arts are an essential in education not a frill.

According to one art museum educator an overall acceptance of art in the schools was needed as reflected in the following statement:

> A general atmosphere in which arts are viewed as essential is very important. Hiring art teachers is also important. Encouraging an interdisciplinary approach to all subjects will help art. Having all children study art (history, production, etc.) for 12 years. Valuing art production thus the objects in collections.

A final suggestion included integrating art into the curriculum so that it becomes a pervasive element in students' learning. This would communicate the idea that art is a life experience and not just an added component to the curriculum; the art museum would then have the chance to become important in the schools.

Discussion and Recommendations

Art museum educators' statements reflect articulated concerns found in the literature about the lack of on-going museum-school relationships (Grinder & McCoy, 1985). The fact that the sample stated that there was a need to value and utilize the art museum is in keeping with these concerns, especially those noting its current use as an enrichment rather an integrated component of the school curriculum (Commission on Museums for a New Century, 1984; Zeller, 1987). While the literature has offered an overview of such issues, available information is general. The results of this investigation offer more specific information for achieving cooperative relationships between art museums and schools.

The value of the art museum is not lost to those whose business it is to teach art. However, its value is unrealized or not fully understood by school professionals. Perhaps one of the most important steps that art specialists can take toward initiating art museum-school links is to educate classroom teachers and school administrators including principals, supervisors, superintendents, and school board members about the benefits of the art museums. Art museums are often not viewed seriously by school professionals. Consequently, field trips to art museums are seen as fun and, in many instances, are simply not supported through the allocation of funds and the provision of transportation. Combined efforts of art specialists with art museum educators to orient school professionals toward the art museum could be the most productive and important strategy for promoting the art museum in the schools.

Art specialists are faced with a myriad of responsibilities in their day to day activities of teaching numerous classes that may be large and overcrowded. The idea of initiating steps to promote the art museum as a valued resource may seem idealistic and unrealistic in light of pressing teaching responsibilities. Yet the art specialist more than any other teacher in the school setting is critical for developing awareness of the art museum and its benefits. The art specialist is also in the best position to address the special needs of the school. In light of the proactive agenda set by *Excellence and Equity* (1992), this may be the opportune time for art specialists and art museum edu-

cators to join forces and become educational allies. Indeed, the time may be right to fully explore a resource that may be yet untapped — relationships between art specialists and art museum educators.

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Challenging Notions of Curriculum Development: Questions of Multicultural Context and Content in How We Encourage Students to Learn

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Abstract

Two goals in the teaching of multicultural art education are that, through the learning process, (1) students will develop a sensitivity to the techniques and inspiration shared by the generating artist(s), and (2) students will utilize this understanding to discover more about their own beliefs and values as translated through an art object. Using the example of a case study lesson on African art taught to pre-service undergraduate education majors, this article investigates a series of concerns regarding goals of self-revelation through the artistic process. The results of this classroom investigation inspire questions of how and why we teach as we do and suggest alternative strategies for mapping out a more meaningful multicultural art curriculum.

Multiculturalism has become something of a buzzword. The term, often identified to mean different things to different people, is used frequently by general educators and art educators alike. Virtually any curriculum development plan today stresses the need to incorporate multicultural issues in every content area. Constance Wolf (1991) explores the debate over the meaning of multiculturalism and its use in curriculum theory when she speaks of "changing the curriculum from one of absolute truth to one of embracing multiple perspectives, from one of memorization to one of inquiry, from one of secondary texts to one of primary texts [which] is just one step in a complete overhaul of the educational system" (p. 46). Wolf's challenge is an interesting one particularly as it relates to art education and our interest as a discipline in incorporating notions of artistic production from a variety of peoples. The focus of this paper, therefore, is upon a set of questions and concerns surrounding a lesson on African art which I developed and taught to a group of undergraduate elementary education generalists. The lesson, presented here as a brief case study, acts as a framework through which we may trace issues of curricular methods, goals, and philosophical questions as related to Wolf's proposed curriculum overhaul. Since it seems to be a basic human tendency to take many of the beliefs and values of our own culture for granted, I felt that teaching students to examine an important issue from the perspective of another culture might present complex problems and questions in a fresh manner and enable us to see ourselves with new understanding. This, in my opinion, is one of the strongest arguments for changing our curriculum strategies in the way we teach multicultural art.

To a great extent it is this philosophical comparison of self and "other" which has encouraged my own interest in global art forms: looking at the artistic production of others has taught me to rethink my own priorities. It has also caused me to pose the same questions that many of us in art education ask ourselves: In the teaching of any work from another culture, how can we measure/study that work in terms which are authentic to its production yet understandable in our own cultural context? Is it even possible? What are the problems to be encountered and the gains to be reached? A brief case study of a multicultural lesson follows, the results of which help us to frame questions and reflective responses on the nature of what we teach our students and how they learn.

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One particular issue frequently mentioned in discussions of multicultural art presentation is the emphasis of teaching artworks in proper context. Jo Anne Pagano (1991) illustrates the importance of context through her use of dialogue in the classroom and her encouragement of students to draw from their "lived experiences" in responding to learning situations. Barbara Boyer (1987) proposes a program for cultural iteracy (read multiculturalism) in art education which would encourage students to: (a) identify personal experiences, (b) collect personal data, (c) study social and historical influences, (d) compare and contrast varied cultures through cross-cultural lenses, and (e) expand the imagination for future possibilities. Each of these educators mentioned believes that a student's learning experience involves far more than the mere presentation of content. Boyer's outline takes into consideration the context of both producer and perceiver, therefore, when I initially searched for curricular guidelines I felt this one to be a good model to incorporate in my own classroom. The following is a sample case drawn from the realities of teaching practice which helps to illustrate some of the discrepancies between what we *intend* to have happen when we introduce "loaded" concepts to students and what they may actually exhibit as learning outcomes. In this case the two were somewhat far apart. Nonetheless, the results provide an interesting departure point for reflection on what may be at the true core of our educational goals.

A Sample Case

As an instructor of an art methods course for generalist education majors, I wished my students to have the opportunity to work with clay as a medium for one of their studio experiences. It seemed appropriate to introduce concepts of West African art at the same time in order to give some direction and focus to their work. Because a fellow instructor had already developed a lesson plan outlining the symbolic nature of African art, I used her plan as my rough model and made my own modifications. In brief, the goals of the lesson were to expose students to some of the cultural beliefs of the West African peoples and to recognize how these beliefs influence the form and expressions of their artwork. My basic objectives were to: (1) have my students recognize something of the thought or spirituality behind the African art production, (2) allow students to connect this meaning into something more personal in their own "lived experiences," (3) encourage the students to link what they had learned earlier about the principles of sculptural form to what they saw in the African works, and (4) transfer these perceptions into a tangible product in clay.

Even at the time, I was painfully aware of the limitations of the learning situation just outlined. I knew I would be running the risk of trivializing a complex body of people and traditions by treating so much information in such a small amount of time, but I felt the advantage of exposure to fresh modes of thought outweighed the disadvantages. My procedure for the lesson was to first address Boyer's points (a) and (b) by questioning students about ritual and ceremony in their own lives. I then proceeded to Boyer's next two points (c) and (d) by showing students a collection of slides with a taped narration on West African artworks developed by the National Gallery of Art Extension Division.

It became immediately apparent that the slide presentation was a failure. After ten minutes of listening to historically correct but lifelessly presented material about the origins of symbolism in African art, I turned off the unenthusiastic taped voice and together, the students and I surveyed more of the slides on our own as I directed and focused questions myself. At the end of the class period I asked students to think about a ritual in

their own lives and write about it in their journals. I explained that during the next class period they would be translating their ideas into visual form as clay expressions of the "spirit" of that ceremony or ritual. Three days later we met as a class at the student union clay shop. I gave a brief demonstration on the techniques of working with clay and circulated to speak with individuals as they worked on their projects.

The results were both disappointing and puzzling. I found most students had focused on mundane personal rituals such a brushing their teeth, eating morning cereal, talking on the phone, etc. One student explained her ritualistic summer boating exploits to me as she studiously tried to reproduce (from technical diagrams) a copy of the boat in which her family sailed every year. Only one student approached the problem as I had hoped they all would. She built an abstract piece to symbolize the spirit and rituals behind her boyfriend's tenure in the Marines. When I asked her what she was trying to express she explained that she was trying to capture the spirit of strength, honesty, and adventure that she saw as the embodiment of morale in the service. None of the others were able to pinpoint such abstractions as these, to say nothing of the mysterious or magical qualities found so often at the root of ritualistic behavior.

The entire experience of presenting this lesson caused me to pause and consider what I had asked my students to do and how my goals may or may not have coincided with those of art education and multicultural curriculum theories in general. I found myself asking if something had gone wrong or if, in fact, the results might be justified on their own terms. After some reflection on what I had been trying to accomplish and why, I realized that the whole experience went far deeper than merely trying to get students to understand something about non-Western art. An array of issues seem to have emerged revolving around the way we structure dissemination of knowledge and the relationship of a student to his/her involvement in the process of gaining knowledge. Thus, in the following section I present a review of the philosophies from a number of curriculum theorists and art educators who are concerned with these notions. These are then analyzed in relation to the learning situation on symbolism in African art which has just been described.

Curricular Theory and the Teaching of Art

William Pinar (1975) speaks of curriculum as something akin to a map. To use his analogy, we might outline the points along the journey but do not try to lay down a rigid system for connecting those points. As Pinar points out, the very meaning of the term *currere* is "to run" which suggests a fluidity in educational experiences. Jo Anne Pagano (1991) echoes this sense of fluidity or change according to circumstance when she describes that one purpose for writing fiction in the classroom setting is "to uncover our true selves." Feminist critics such as Laurie Hicks (1992) have often suggested narrative dialogue as a way to better understand both the artwork and the personal contextual meaning for the student. Curriculum practices need to move away from the old structuralist organization position of Ralph Tyler, and instead, allow the teacher to be sensitive to the needs of his/her particular students so that he/she may redirect the lessons as appropriate.

Cleo Cherryholmes (1988) describes this shift in his book *Power and Criticism* when he writes:

> If poststructural criticism teaches nothing else, it teaches us to be suspicious of argumentative, knowledge, and policy claims based on appeals to precision, certainty, clarity, and rigor. This argument may seem a bit curious, unsettling, and unfamiliar because academic and profes-

> sional arguments are expected to begin with a question and end with an answer. . . . Instead of talking about taxonomies of objectives, structures of disciplines, learning objectives, and what "a" curriculum theory would be like, the conversation will turn to what kind of society and schools we want, knowing full well that they constitute each other. (pp. 142–143)

After reading this I began to wonder anew just what I had wanted the students to get from their experience with African art. Had I, in Cherryholmes' terms, been more concerned with objectives rather than the kind of reflective experience the students were to have? Were the students' responses of personal rituals trivial after all, or was I perhaps too rigid in my expectations? Vincent Lanier (1987) writes that "taste should be the individual's perogative, as long as, from an educational viewpoint, choices are made on the basis of knowledge rather than as a result of ignorance" (p. 177). I interpret Lanier's meaning here to be that, as educators, it is our duty to expose students to new knowledge or information. This relates to the "informed access" Lanier has often mentioned. If I had been trying to expose my students to new knowledge, then it seemed they had not internalized that thought as demonstrated by their journal writings and art production pieces. If true learning results from a running dialogue between teachers and students, had I been flexible enough in my presentation of the material? What exactly WAS I seeing in the African art that I felt had not transferred to my students' experience?

I believe that what I had hoped to do was to encourage, in my students, a personal exploration of their own lives in order to discover a sense of mystery or spirituality there. The African artwork seemed a suitable vehicle for such a journey. I had thought this sense of symbolic existence was a universal concept found in virtually all cultures, and that by presenting the concept of spirituality in African art to my students that it would help to act as a springboard for similar comparisons in our own Western culture. Ultimately, I expected the lesson to underscore the connectedness of varied cultural groups. Instead, I inadvertently uncovered a perplexing problem, namely that one cultural group's sense of spirituality did not necessarily directly transfer to another. Had I first shared with the class readings from books like *The Reenchantment of Art* by Suzi Gablik (1991) and *Imaginary Landscapes* by William Thompson (1989) the students might have had a clearer sense of what I wanted them to explore.

If I reconsider my intentions in the case of this art lesson using Cherryholmes' model, I find that what I needed to do was consider the type of society for which I might aim and work backwards from there to what I wanted the students to experience. Certainly, this would be approaching curriculum planning with a different focus.

While it is a somewhat nebulous concept, I believe my intentions had something to do with the ideas of "wholeness" in our environment and our spiritual connectedness to this planet. William Thompson (1989) illustrates how an individual can change his or her own imaginative landscape by meditating on our place in this world.

> The environment does not contain the organism and constrain it to adapt or die; the environment is the sum of all the collective flows of the organisms that constitute it. One organism evolves by climbing on the back of another; together the pathways of their natural histories in time constitute an evolutionary landscape. (p. 115)

African art provides us with an example of peoples who are very sensitive to their environment. This is expressed in their artwork which typically has the artist play the role of interpreter between the magical world of the unseen and the everyday life of the general population. I wanted

to have my students experience the search for such a connection between the "spirit of a thing" (ritual or ceremony) and the visual description of it through the production of artwork.

> Mystical knowledge achieved through meditation, can sensitize us to consciousness without a sensory percept or a conceptual syntax, and this is traditionally called consciousness without an object, or samadhi, but the Imagination is an intermediate realm, the realm of the artist, scientist, or prophet who renders the Intelligible into the Sensible. (Thompson, p. 84)

However, there was a missed connection somehow in the students' interpretation of ritual in their own lives. Would brushing one's teeth in the morning really be considered a *vital* ceremony to the meaning of one's life? In wondering how to interpret the results that the students produced I questioned whether I should review the objectives written for this lesson or let the students' interpretation stand at that. Would I be shortchanging the students by allowing them to remain on such a superficial level?

A number of feminist theorists are acutely aware of the very thing I had tried to engender (without my knowing what to call it) in my students. This "something" might be labeled as part of a "feminine sensibility" which works toward a healing of our society and may apply to art as well. Unlike the cynicism of modernist avant-garde thinking which placed a premium on the individual, feminist reconstructivism advocates a society of cooperation where the role of the artist is to help facilitate reconciliation. If this was the type of society (to return to Cherryholmes' curriculum development model) I had in mind, then perhaps this was my motivation in encouraging my students to discover spirituality in themselves.

Suzi Gablik (1991) suggests in her book *The Reenchantment of Art*, "Our prevailing sense of disenchantment, a legacy from the modern industrial age, is not simply a matter of the intellect; by now it has been woven into our personalities, atittudes and behaviors" (p. 46). How true in the case of these students. Gablik continues, "The remythologizing of consciousness through art and ritual is one way that our culture can regain a sense of enchantment" (p. 48).

Was this the thing then that kept my students from seeing the ritualistic or spiritual side of their lives? Have we become so removed from this part of our soul in an industrialized society? Suzi Gablik speculates on this loss when she writes:

> One of the peculiar developments in our Western world is that we are losing our sense of the divine side of life, of the power of imagination, myth, dream and vision. The particular structure of modern consciousness, centered in a rationalizing, abstracting and controlling ego, determines the world we live in and how we perceive and understand it; without the magical sense of perception, we do not live in a magical world. We no longer have the ability to shift mindsets and thus to perceive other realities to move between the worlds, as ancient shamans did. Ritual signifies that something more is going on than meets the eye — something sacred. . . . Having a strong visual effect on the environment is important, as is the inner willingness to transform — this is what makes a ritual come alive and have power. The important thing is whether a shift in awareness occurs, creating a point of departure, an opening for numinous or magical experience that can never be obtained by cultivating intellectual skills. . . . In our culture it is no easy task to accept the validity of experiences that are called "visionary." The modern personality is much more respectful of the rational aspects of the psyche. We have no prescribed way to do the vision quest, no ceremonies for meeting the gods in the magic circle; the faculties with which we might have joined them have atrophied. Those who want to learn to enter the "Dreamtime" today in order to initiate healing have to find ways of effecting a

> release of archetypal memory that predates the loss of our integration with nature. (pp. 42–44)

Gablik's concept of ecological wholeness is echoed by both William Thompson (1989) and Jan Jagodinski (1987) each of whom expresses the hope that individuals in society may take responsibility for preserving the integrity of our home planet. Again, one is reminded of Cherryholmes' call for the educator to consider what kind of society we want in order for that vision to direct the focus how we present learning or schooling to our students. Gablik fully believes that "for every situation in our lives, there is a thought pattern that both precedes and maintains it, so that our consistent thinking patterns create our experience. By changing our thinking, we can also change our experience" (p. 23).

Conclusion

Let us return to the example of the art lesson outlined earlier. I now realize that what I had wanted was for the students to discover and reflect upon the issues of spirituality embodied in art and the connections in their own lives. I did not, whether because I lacked the time or assumed incorrectly that it would come naturally, tell them all of this. Maybe the "not telling" is the key to the whole experience. I had hoped to *show* the students the spiritual and symbolic nature that art may possess. I did not intend to *tell* them about it. I firmly believe this is one of the most important characteristics of any good educational experience. These students needed to struggle firsthand with the medium, to solve the problem of how one represents the unintelligible through concrete artistic production. In truth, is this not what we keep telling our students "real" artists do? Maxine Greene (1990) explains our educational predicament in this way:

> We who are teachers can point to details of formed content; we can make metaphors visible; we can admonish when it comes to confusion between commonsense and illusioned worlds. We can open pathways to the study of social contexts, of styles, of horizons, of representation in its problematic complexity . . . that release us in novel ways to see. But we cannot impose an aesthetic experience upon another; we cannot legislate an aesthetic object into being for another's consciousness. We cannot instruct another what he or she is to perceive — hear, read, see. (p. 152)

Greene continues by suggesting that the greatest progress in her own artistic endeavors has resulted from struggling with the medium herself in order to embody emotions or perceptions into a "real" thing . . . "to try to construct a world with our own pigments or sounds or gestures or words, is to come to understand artmaking in some fashion, to grasp 'making' itself. Imagination, after all, is the capacity to move beyond to what is not yet, to what might be; it is the capacity to break the boundaries" (p. 49).

Thus, to summarize my experience in the development and presentation of this lesson combining principles of African art, spirituality and artistic production, I realize that there may have been more questions raised than answers uncovered. However, despite the lack of a somewhat "concrete" sense of accomplishment, I am convinced the process of inquiry inspired by this art lesson is at least pointed in the right direction. It has attempted to address each of the five points listed in Boyer's program for cultural literacy, it has made the case for viewing a culture's artwork in the contexts of both producers (African in this case) and perceivers (college students), it has sought to incorporate students' lived experiences in their responses, and it has called for a direct hands-on production of a particular artwork so that students might better appreciate the role of the artist. While such a program may in no way be considered perfect, it does

provide one revealing example of how multicultural concerns might be integrated into the curriculum if we are to take Wolf's challenge seriously.

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Editorial

Christine Thompson
Associate Editor

"To see organized form emerge in the scribbles of children is to watch one of the miracles of nature" (Arnheim, 1954/1974, p. 174).

The marks and symbols which young children produce with such concentration and ease intrigue us—artists, educators, psychologists, and parents—adults who witness and wonder at this process which is universal and predictable, and invented anew by every human child.

For more than a century, this mystery has sustained our interest, and many have sought its solution. An initial cadre of investigators charted terrain previously unexplored, and forged paths which subsequent generations continue to follow. Young children's drawings, collected, cataloged, compared, and analyzed, revealed remarkable regularities of structure and form, definite evolutionary patterns, subtle cultural differences manifested primarily in choice of subject matter. Questions arose about the meaning of this activity, its importance to children, its relation to intellectual growth, and its contribution to emotional well-being. Approached on purely aesthetic grounds, young children's art—lush, direct, uninhibited, striking—was ideally suited to modernist sensibilities, and served as inspiration for countless artists who found in the art of the very young qualities to envy and to emulate. By mid-century, a profound appreciation of children's art, and a considerable degree of consensus about its most characteristic features, were shared by many whose professional interests centered upon children.

Many of the earliest descriptions of children's art derived from systematic examination of drawings produced by numbers of anonymous children, identified only by age and gender. The process through which children constructed images, the sequence they followed in assembling a representation, the comments or gestures that accompanied their work, the context in which drawings were made, were seldom, if ever, considered relevant data. If researchers were present when children produced the drawings upon which taxonomies were later constructed, readers of these studies were rarely accorded the benefit of the authors' observations. As this model of research became entrenched as standard procedure for the study of children's drawings, we came to know a certain type and aspect of children's art exceptionally well: We may predict, with reasonable confidence, the kinds of formal properties and organizational principles children of various ages are likely to use when they draw in response to assigned topics which elicit strategies for constructing figures or describing spatial relationships, for example. This research tradition produced a remarkable bounty of information about children in general, about trends and tendencies which appear to be developmental, hardy, persistent, universal, and naturally occurring.

But even when the story researchers told was primarily descriptive, there was frequently a moral attached. Even the most 'disinterested' students of children's art felt compelled to share what they had concluded, as they sifted through hundreds of drawings, about the proper role of teachers and parents vis-à-vis children's art. The issues of understanding and teaching have always intertwined in discussions of child art. Almost without exception, the best advice researchers could offer to adults was to proceed with extreme caution in order to avoid disrup-

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tion of the delicately calibrated process through which children seem to teach themselves to draw. If the child art we came to know was predictable in form and evolution, it was also, it seemed, fragile and easily corrupted by external forces, both subtle and overt.

Nowhere has this cautionary tale been taken more deeply to heart than in the realm of early childhood education. Nowhere has its message proven to be more enduring. As Carol Seefeldt (1987) explains, early childhood educators tend to "view their role as providers of materials and builders of an environment in which children can grow through exploration and experimentation" (p. 184), and, thus, the "developmental theory [in art education] which suggests that direct instruction or any interference in children's personal expression is inappropriate, has received wide acceptance" (p. 184). The customary provisions for art activities in preschools—stations or centers equipped with basic, responsive materials, ready for children to explore and manipulate—do invite the kinds of preliminary play which frequently lead to more intentional forms of expression (Zurmuehlen, 1990). These loosely structured, "voluntary" (Lark-Horovitz, Lewis, & Luca, 1973, p. 35) activities are an essential part of early childhood learning, providing vital opportunities to become acquainted with materials, to explore ideas, and to hone developing skills. Because such activities are selected and structured by children themselves, they often provide experiences that are more authentic as art (Beittel, 1973) and more meaningful to children than art activities which teachers plan and orchestrate.

But child-centered approaches to art activities are prone to the difficulties which plague radically child-centered education of any kind: Focusing exclusively on the child, they tend to devalue the contribution of adults, and to distort the intersubjective processes which are crucial to learning. Adults' role in young children's learning was long considered minimal and menial: Parents and teachers provided the materials through which children constructed their knowledge of the world. The traditional Piagetian view—anticipated or echoed by many who studied young children's artistic development—suggested that adult involvement in children's learning was almost always extraneous and often lethal.

Many early childhood educators, including those who work most directly and continuously with young children and their art, consider the recommendations offered by art educators and researchers prohibitive and impractical. Pronouncements couched in "Don'ts" and "Nevers" leave many teachers puzzled and paralyzed, eager to do the right thing, afraid to transgress the protective boundaries which encircle children at work and limit access to their creative acts. Teachers who work with groups of young children on a daily basis may also suspect that something fundamental is missing, or inadequately acknowledged, in the accounts of artistic development upon which such recommendations for teaching and learning are based: Where are the other children? Where is the active social life, the observations and exchange, that are so much a part of the experience of drawing or painting or working with clay in a preschool or elementary classroom? Is it not possible that an adult might find a profitable role to play within this community of children, a positive way to guide children's explorations and enhance their learning?

These questions regarding early artistic development and learning have gained attention and urgency in recent years. Changes in the lives of adults inevitably reverberate in the lives of young children. When adults become parents and continue to work full time, their children must ease into daily routines of their own. For many young children these routines entail extended periods of time spent in education or care settings outside their homes, in the company of adults and children beyond their immediate families.

The culture of early childhood is profoundly different than it was when most children spent their earliest years at home, when nursery school served as a part-time enrichment for children of the wealthy, and preschool was designed primarily to even the playing field for children of the poor (Jones & Reynolds, 1992; Polakow, 1993).

The forms that preschool experience may take are infinite: Extreme variations in the quality of care and the appropriateness of educational experiences provided in day care centers and preschools severely restrict the sweep of generalizations that may be made about what preschools are like, or about the events that transpire there (Polakow, 1993; Suransky, 1982). It is clear, however, that the momentous changes that have occurred in arrangements for the education and care of young children have brought many widely-held assumptions about the nature of development and learning into question. As they act and interact in classroom settings, young children make many propositions which adults once accepted as irrefutable truths seem slightly unreliable, if not patently ridiculous. It no longer seems reasonable to believe that the physical world is the sole source and subject of early learning, for example: The tremendous number and range of things that young children learn through their conversations and collaborations with other children and adults is impossible to ignore. Many writers and researchers who have been influenced by the writings of L. S. Vygotsky (1962, 1978) emphasize the role that adults play in giving meaning to children's experiences (Tizard & Hughes, 1984; Tudge & Rogoff, 1989), as they provide an infrastructure upon which children can begin to build their own interpretations of the world.

Although preschoolers and their education have attracted the greatest share of attention from researchers and theorists in recent years, the entire range of early childhood—from birth through age 8—has been more clearly defined and demarcated in the process. The particular developmental tasks that preoccupy children in the early elementary years, and the specific approaches to learning which preserve independent exploration and provide apprenticeships in more conventional forms of inquiry are more readily characterized in contrast to fully elaborated models of preschool teaching and learning (see, for example, Cecil & Lauritzen, 1994; Jones & Reynolds, 1992; Katz & Chard, 1989).

This special issue of *Visual Arts Research* reflects the continuation of a quest to understand young children's art more fully, and to situate artistic experience more firmly in the context of children's lives and learning. Throughout the pages that follow there are echoes of dialogues long underway, resumed now in a context in which the practice and the problems of early art education are no longer hypothetical, in which art educators and researchers are permitted to play a more active role, in which the importance of artistic learning has become increasingly apparent. There is much that is new here, directly perceived and freshly presented, by authors who have rediscovered in early childhood the sources of knowing and acting and inventing the world that sustain and refresh the human spirit.

Understanding Young Children and Their Art

Anna Kindler and Bernard Darras present an original theoretical perspective on the emergence of pictorial imagery in early childhood, a portion of a more comprehensive model which describes image making as a semiotic process occurring within a social environment. Their work introduces several assumptions shared by the contributors to this issue and by others concerned with the art of young children. There is a new understanding of the intimacy of the relationship between development and learning, and, with it, a determination to look beyond

the solitary child bent to her work, to take a more panoramic view which embraces the social context and the various forms of mediation that influence children as they draw. There is a newly restored conviction that young children's artistic process can only be understood at firsthand, through close and sustained observation of children engaged in the work of art. There is a belief that children's drawings are guided by children's intentions and reflect their attempts to construct meaningful interpretations, or symbolic representations, of their experiences. Kindler and Darras reexamine the sources of our present understandings, and reconfigure many disjunct observations within their own balanced and encompassing theory.

Claire Golomb addresses the history of interest in children's drawings as anomalies or deviations from the anticipated course of developmental aspirations and acquisitions. She reviews the Piagetian account of drawing development and critiques its basic assumption that realism is the end-point of artistic development. She also questions the notion that progress toward the goal of realistic representation is accomplished through a shift from intellectual to visual realism, from knowledge to vision. Professor Golomb draws upon research that describes young children's "theory of mind," and invokes the work of Ernst Gombrich and Rudolph Arnheim, in support of the new psychology of children's drawings which she proposes here, a psychology characterized by early and enduring recognition that drawing is a symbolic representational act. Her paper suggests that many of the fundamental assumptions about early artistic activity which continue to shape research and practice may distort the processes we seek to understand and confound attempts to embody theory in practice.

John Matthews provides a generously illustrated, cross-cultural look at the similarities that are evident in preschoolers' exploratory play and their visual representations. He adopts Noam Chomsky's concept of "deep structures" to identify those apparently universal and robust principles which underlie children's organization and use of media of various kinds. In this work, Professor Matthews offers an inclusive definition of representation which places this process at the center of preschool education. He also argues persuasively for the necessity of focusing research on young children as they enact processes of representation in the naturally occurring contexts of their homes and classrooms where representational behaviors unfold in all their complexity and all connections are preserved.

Teaching Art in Early Childhood Settings

Marilyn Zurmuehlen (1990) observed that children learn to draw through the activity of drawing and marking; the process of artistic development is neither passive nor automatic, but depends upon the experiences a child has and the meanings he or she is able to construct upon that foundation. The artistic development of young children is an intrinsically educational issue, as several authors whose work is included in this issue recognize. Young children's earliest experiences with art depend upon those adults who are responsible, by design or default, for providing the occasions in which these encounters occur. Few art specialists are employed in preschools or day care centers, and many art teachers have little preparation to teach very young children nor to work profitably in collaboration with classroom teachers who may seek their advice. In many preschool, kindergarten, and primary grade classrooms, art has long been taught, but often in a manner which art educators recognize as detrimental to children's development and learning, and unrelated to authentic artistic practices or processes of thought. Thus, if art is to move closer to the center of the early childhood curriculum, con-

siderable clarity will be required as art educators and researchers describe and define appropriate and authentic practices for early art education.

Several inspiring models appear in this issue. Steve Thunder-McGuire emphasizes the interplay between action and reflection that can be observed when young children are encouraged to develop a body of work or a sustained series of images bound by the impulse to recount and interpret incidents drawn from their lives. Thunder-McGuire reinforces the belief that our present understanding of children's capacities is limited and distorted by the circumstances in which we have observed their work, the type of work we have encouraged and endorsed, and the questions we have posed to the children and to ourselves. He finds in the work of young elementary school children engaged in the creation of artists' books ample support for his proposal that the forms of generative praxis described by Kenneth Beittel and Marilyn Zurmuehlen, Paul Ricouer and Ben Shahn exist in young children, ready to be called forth by sensitive teachers and researchers. He explicitly poses the question which all contributors to this issue invite us to consider: How does this conviction about children change our approach to teaching art, our orientation toward understanding what art is in the lives of the very young?

Julia Kellman also addresses the issue of artistic authenticity, but introduces the parallel concern of "developmental appropriateness," a concept promoted by the National Association for the Education of Young Children. Professor Kellman vividly describes the sort of misadventure that can result when lessons are constructed without reference to the ways in which children are apt to interpret the concepts, forms, and imagery involved. She urges the restoration of truly child-centered art education, focused upon essential qualities and purposes of artistic experience and relieved of the confusing and contradictory array of duties art is often expected to fulfill in our schools.

Similar concerns for artistic authenticity and developmental appropriateness prompted Priscilla Lund to explore the theme of home as it is reflected in children's drawings and stories. Taking this rich universal theme as an example, Professor Lund demonstrates how pedagogic decisions are woven from multiple strands of educational concern. She emphasizes the ways in which teachers guide young children, helping them to move beyond the concrete immediacy of personal experience which was long considered the proper dwelling place of young children. She proposes that children begin to understand others through the processes of sharing stories, comparing experiences, coming to understand uniqueness and belonging as compatible and complementary ways of being in the world. Recognizing the self as measure of all things, and personal experience as grounding and reference point, Professor Lund describes the ways in which teaching and learning lead outward into a world in which children continue to feel at home.

Elizabeth Goldsmith-Conley and Sandra Bales describe a lengthy collaboration between the head teacher of a small alternative primary school and an art educator. The evolution of this venture is intriguing and instructive for all who are concerned with art in early childhood settings, for even Goldsmith-Conley, a staunch advocate of the arts in education, found it possible to overlook art as she attempted to address the competing demands of curricular areas vying for limited instructional time. Dissatisfied with either of the compromises which classroom teachers often make—to present art materials as centers or to use drawing as a means to illustrate learning in other areas—she sought help from a colleague with whom she had worked, more casually, in the past, whose philosophical commitments she admired and, in some measure, shared. Their subsequent collaboration was undertaken as research,

motivated partially by the desire to know more, documented carefully and intentionally to preserve the processes of thought, the dialogues and the disagreements through which their curriculum evolved and prospered. The two perspectives preserved in this account testify to the power of collaboration between suitably-matched partners and to the distinctive concerns which each party retains as she considers the situation from her own interpretive stance.

Finally, a provocative last word is provided by David W. Baker, in a text which he originally presented as a keynote speech at the symposium, "Making Meaning Through Art: Art in Early Childhood Education," held at the University of Illinois at Urbana-Champaign in 1992. Professor Baker shares selected results of a study which suggests that the particular kinds of learning that early art experiences provide may be decisive to learning as a whole. Using caregivers' perceptions as a reliable and customary measure of children's abilities, Professor Baker and his colleagues detected a strong and positive relationship between drawing abilities and academic success. Indications of the importance of preschool experience, and the availability of art materials at home and at preschool, provide additional cause to reflect upon the enduring impact of substantial preschool art experience upon children's learning.

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Artistic Development in Context: Emergence and Development of Pictorial Imagery in the Early Childhood Years

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Over the past hundred years, young children's pictorial production attracted an unprecedented amount of attention. It has been studied from numerous perspectives: as an indicator of cognitive abilities (e.g. Arnheim, 1954, 1974; Luquet, 1912; Wallon, 1951), as a measure of a child's intellectual maturity or intelligence (e.g., Goodenough, 1926; Harris, 1963), as basis for assessing creativity and mental well-being (e.g., Gaitskell & Hurwitz, 1970; Lowenfeld & Brittain, 1987; Stern, 1958), or as a means to access children's way of thinking, conceptualizing, and making sense of personal experiences (e.g., Gardner, 1982; Golomb, 1992; Merleau-Ponty, 1950; Widlocher, 1965). It has been elevated to the status of art and provided inspiration for Miro, Klee, Dubuffet, and other adult artists. Picasso's famous quote that "it has taken me a whole lifetime to learn to draw like a child" (in Gardner, 1982, p. 89) is a good example of the high status which it acquired within the Western art community. Young children's pictorial imagery has also been collected by researchers (e.g., Kellogg, 1970; Kerschensteiner, 1905; Luquet, 1913) and, maybe less systematically, by parents for whom the early pictorial efforts of their children constitute precious keepsakes and hold tender memories. As MacGregor (in press) indicated, most art educators who have children accumulate extensive collections of drawings, paintings, and other pictorial work, which they later explore in their professional endeavors.

Although the graphic evidence of children's art explorations has attracted much attention in the past, only recently researchers became specifically concerned with the context in which this pictorial production emerges (e.g., Thompson & Bales, 1991). This change in focus allowed for approaching artistic development in the early childhood years in more comprehensive terms, where graphic production can be seen as a component of a process concerned with pictorial substitution and "stand-for" relations in the realm of visual arts, rather than a complete, self-contained entity.

The notion of artistic development in the early childhood years which we propose in this article is derived from observational and empirical studies, conducted in naturalistic settings in Canada, France, and Japan. These include research carried out at the University of British Columbia Child Study Centre involving three- to seven-year-old children between 1990–1993 (Kindler 1992, 1992a; Kindler & Thompson, 1994), large cross-cultural explorations involving French and Japanese partnership (Darras, 1992, 1994; Darras & Murakami, 1993), as well as longitudinal studies of our own children's artistic development (Kindler, 1992b, 1994). Analysis of videotapes, drawings and accompanying audio material, and transcripts of children's verbal behavior as well as notes taken throughout these investigations, contributed to the development of a model of the emergence and development of pictorial imagery in the early childhood years (Darras & Kindler, 1994). This model is in congruence with a paradigm which we suggested as an explanation of strategies involved in the pictorial production of children, adolescents, and adults (Darras

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& Kindler 1993, 1993a). Our broad model regards the emergence and development of pictorial imagery as a semiotic process that occurs in an interactive social environment and results, especially in the early childhood years, in multi-media manifestations.

In the construction of our model, we relied heavily on Arnheim's (1986; in press) conceptualization of the duality of ways in which the human mind acquires its experience. Our model (Darras & Kindler, in press, 1993, 1993a) suggests the presence of universal forces of attraction and repulsion, and corresponding generic and individuate tendencies as responsible for the emergence and development of pictorial imagery from early childhood through adulthood (Figure 1). It proposes that the interplay of these two tendencies accounts for changes and the potential for a great diversity in the realm of pictorial imagery. Our model regards artistic development as a process comprising of biologically propelled unfolding of cognitive and pictorial abilities, self-learning, which is considered as an extension of such unfolding, and socially and culturally mediated learning, including exposure to formal teaching. It departs from the developmentalists' conception (e.g. Lowenfeld, 1947; Read, 1958) which assumed that children "move innately through stages of artistic development" (Clark, 1994, p. 16). We further suggested that the development of pictorial imagery cannot be explained in terms of a linear progression model. Instead, we proposed a map-like configuration of diverse possibilities, which highlighted significance of bifurcation and incrementation processes, prompted by the influence of generic and individuate tendencies (Figure 2).

In our discussion of the emergence and development of pictorial imagery in the early childhood years we examine the development of pictorial represen-

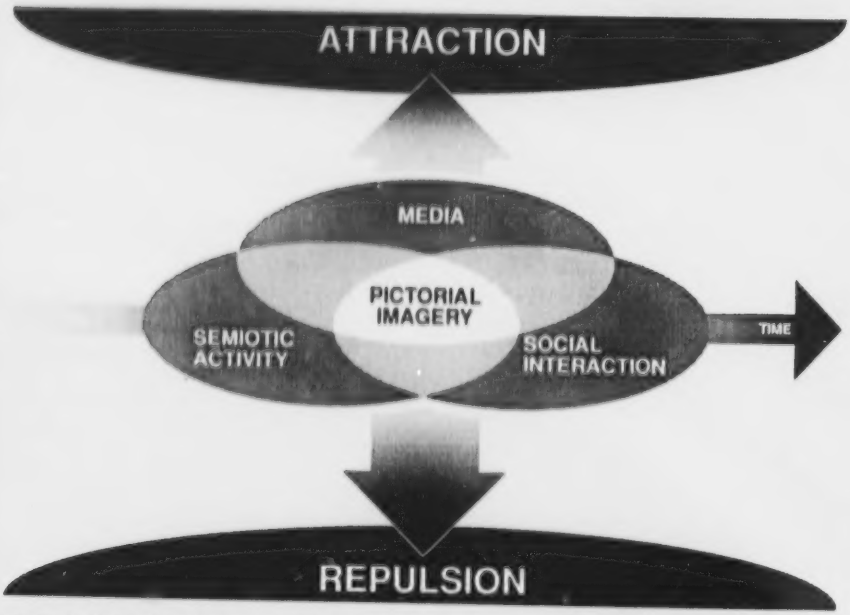

Figure 1. © *Bernard Darras and Anna M. Kindler, 1994. Model that suggests the emergence and development of pictorial imagery from early childhood through adulthood.*

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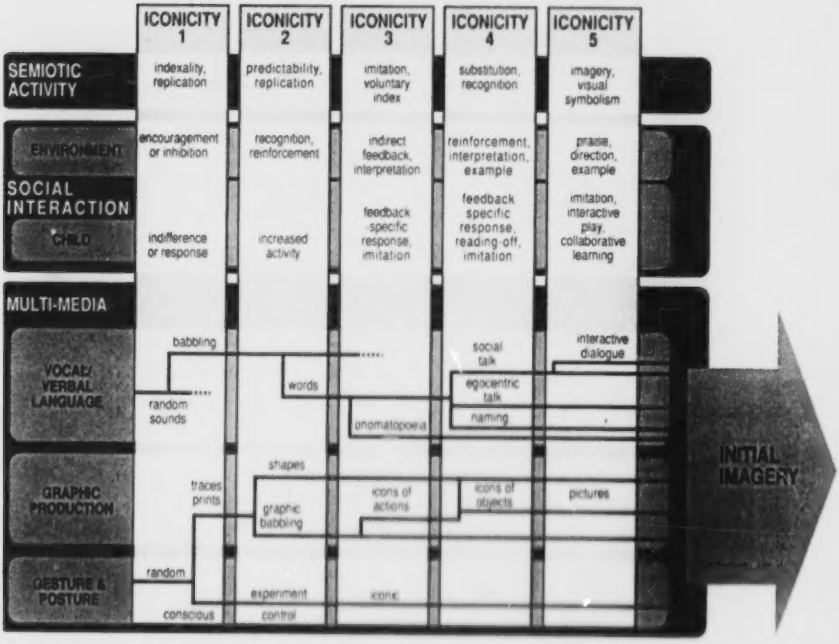

Figure 2. © *Bernard Darras and Anna M. Kindler, 1994. Map-like configuration that describes the development of pictorial imagery.*

tation by attending to three levels (see Figure 2), which together help explain the nature of these processes. We point to the cognitive gains and developments within the realm of semiotic activity. We discuss the form and impact of social interactions and certain aspects of cultural context, and attempt to describe the changes and developments in the resulting multi-media productions with special attention given to the postural/gestural and vocal/verbal contributions, as well as graphic manifestations.

In describing the development of pictorial imagery in the early childhood years we found it useful to identify five phases which we labeled Iconicity 1–5, the term being derived from Peirce's (1931–35) semiotic theory (see Figure 2). It is important to realize, however, that these need to be regarded as landmarks signifying points of bifurcation rather than developmental stages where the move to the next level indicates at the same time the extinction of manifestations characteristic of earlier phases. Each iconicity level delineates a range of behaviors and possibilities, rather than describing a precisely defined norm. We have also refrained from suggesting a specific relationship between the age of a child and a particular iconicity phase, since a number of factors, including the context in which a child grows up, greatly affect children's placement on the map described by our model in the early childhood years.

Iconicity 1

The Iconicity 1 phase delineates the beginnings of the emergence of pictorial imagery. It is marked by the acquisition

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of the concept of the basic relationship between actions and their traces.

On the semiotic activity level, the Iconicity 1 phase is marked by the emergence of indexality which signifies the recognition of the ability to produce icons of actions. The fact that a child notices and takes interest in his or her mark can, according to Peirce (1931–35), be considered a cognitive and semiotic act. It is in this early indexality stage that pictorial imagery finds its source. A clear distinction has to be made, however, between the first marks which a very young child may produce when an adult, eager to see first scribbles, places a crayon in an infant's hand, and those which may be done even without a proper drawing tool, but signify a cognitive and semiotic involvement.

Quentin, a son of one of the researchers, was able to hold a marker and produce his first tangible graphic marks at the age of three months. These marks can hardly be considered, however, the foundations for the emergence of his pictorial imagery, as he had not displayed any evidence of even the most basic recognition of his graphic acts. These scribbles constituted nothing more than accidental records of his motor actions. It was not until Quentin was ten months old, when he noticed with interest marks which he was making on a wet window pane and realized the connection between his kinetic actions and resulting traces. Two weeks later, he began to use marker and a pen to produce more marks.

We would like to suggest that the origins of pictorial imagery are rooted in this early indexality, which through the repetition of realized kinetic acts is a form of kinetic self-imitation of a child. This self-imitation initiates the understanding of a resemblance, an analogy between actions and traces. This experience provides a child with the "stimulation of watching lines appear where none existed before" (Eisner, 1976, p. 6) and through the pleasure which this offers, eventually leads to further pictorial explorations.

The influence of the individuate tendency is manifested by the very nature of the indexality process and a child's unending pursuit of new movements with the intrinsic iconic potential. At the same time, the generic tendency is evident in children's interest in replication and repetition of selected actions. During the Iconicity 1 phase, children are not yet very attentive to the visual characteristics of the marks which they produce. Their main concern is the fact that they are able to make marks, not the quality of their traces. Recently, one of the researchers observed an eleven-month-old boy playing with milk spills. While the toddler was eager to move his hand through the spill, the appearance or the permanence of his marks were clearly secondary to the fascination with the action that produced them and the sense of accomplishment of being able to affect the spills.

During this phase children do not seem to be receptive to adults' efforts to focus their interest on the marks. Social interactions may, however, influence the Iconicity 1 experience as adults provide children with cues communicating the perceived worth or even appropriateness of their early iconic actions. The context in which the indexality is manifested weighs heavily on the nature of the feedback. While early marks produced with a tool on a piece of paper, or with a finger on sand, or a wet glass panel may be welcomed and encouraged, children who make their discovery playing with food spills or leaving fingerprints on walls may meet attempts to inhibit their explorations within the norms of Western culture, as Hurwitz and Day (1991) have suggested.

In the realm of graphic production during the Iconicity 1 phase, it is possible to notice the first bifurcation distinguishing continuing non-iconic motor activity and actions which produce traces and prints. Even if first realized traces oc-

curred as results of random gestures, they increasingly become more deliberate as the tendency toward repetition exercises its influence (Marc & Marc, 1992).

On the level of vocal communication the babbling which sometimes accompanies early traces may bring support to the notion that children are delighted in their new discovery. Yet, there seems to be no evidence that at this stage any verbal or vocal cues support the semiotic process.

Iconicity 2

The Iconicity 2 phase is characterized by both predictability, which is a function of the generic tendency, and invention, resulting from the individuate tendency. The child's attention is shifted from purely causing an effect to the effect itself. Marks and traces begin to matter beyond just a mere existence and a child begins to explore the relationships among them.

In contrast to the earlier phase, a child is now able to realize that certain actions result in certain traces: a discovery prompted by a child's ability to perceive similarity between marks and attribute particular appearances to specific causes. This phase in the emergence of pictorial production parallels Piaget's (1978) tertiary circular reactions phase of the sensory-motor stage of development. Piaget indicated that during the tertiary circular reactions substage toddlers are increasingly interested in the events produced by chance and consciously modify their actions to see what implications it would have on the results of the event.

It is also possible to argue that the recognition of similarity among some graphic forms indicates the presence of a basic classification mechanism centered around the principle of resemblance and influenced by the generic tendency. The family resemblance principle (Rosh & Mervis, 1975) which rests on the idea of overall rather than dimensional similarity and which is a basis for young children's classifications (e.g., Kindler, 1990; Shepp and Swartz, 1976; Smith, 1980; Smith & Kemler, 1977, 1978) is a process which favors global generalizations rather than pursuing particularities.

Gained control over gestures combined with pursuit of repetition and certain regularity allows for an increased predictability of produced marks and satisfies generic aspirations. Yet, the emergence of some predictable forms allows for more than just an increase of regularity. It also offers an opportunity for diversity and functioning on the individuate side. At the same time, the recognition of certain rules leading to increase of order and diminished entropy offers the possibility to exceed them.

The increased regularity of marks, and especially the consequent emergence of first shapes, are usually welcomed by adults as signs of more advanced picture making. Pictorial production influenced predominantly by the generic tendency is usually received with more enthusiasm and encouragement than less-organized attempts reminiscent in graphic form of the earlier phase. Consequently, the socially transmitted message seems to indicate to a child that organization, order, and predictability are the desirable outcomes of pictorial efforts.

Yet, as much of the pictorial production becomes at this stage governed by the generic tendency, the informal, unorganized scribbling persists as a continuation of a "graphic babbling," which can be later re-traced in the adolescent or adult geometric scribbles.

Iconicity 3

While we would like to argue that already at the Iconicity 1 level it is possible to detect semiotic process as integral to the first pictorial manifestations in a form of self-imitation, the Iconicity 3 phase marks the emergence of a new form of substi-

tution. Even though graphic production varies little from what could have been observed during the Iconicity 2 phase, traces and prints begin to carry new meaning. In Piagetian terms Iconicity 3 has its beginning in the emergence of the representation phase of the sensory-motor period.

There is an interesting connection between the earlier indexality phase and what happens during the Iconicity 3 time in terms of the importance attributed to actions and their imprints, rather than objects and things. Traditionally adult reading of scribbles has been influenced by the notion that pictorial images represent things rather than dynamic actions. This is likely because the "now and at once" mode of pictorial presentation within the Western culture understanding seems to be more suited to the visualization of things, objects, or frozen scenes than phenomena which unfold in time (Fresnault-Deruelle, 1993). There are, of course, acceptable compromises to which adult minds became conditioned, such as unfolding of action along the horizontal axes or a comic strip format. These conventions are not, however, present in children's graphic production at these early stages.

Yet, our research indicates that children's early pictorial substitutions are indeed concerned with recording actions, not things. It can be argued that the indexality-iconicity connection is instrumental in children's realization that actions can be pictorially represented and, consequently, pictorial manifestations at this time are concerned with dynamic events rather than static objects.

Analysis of vocal manifestations which accompany image making of two and three year old children supports our hypothesis that these toddlers do not draw fire engines, but "the speeding" of fire trucks; they draw "the flying" of an airplane, rather than the aircraft itself. One may speculate, that in the act of play, they in fact "become" the plane themselves and leave traces of their flight trajectories in a manner very similar to the earliest manifestations of indexality. Clearly, it is possible to detect a temporal and rhythmic correspondence between sound and marks production, a phenomenon which has been earlier noted by several researchers (e.g., Lansing, 1976). Sounds which children produce can be regarded as onomatopoeias, or verbal icons which, together with iconic gestures, play a significant part in the multimedia substitution process culminated in the emergence of graphic marks. Our observations lead us to question the common notion suggesting that the production of such scribbles is accompanied by sounds. Rather, we argue that these scribbles can be conceptualized as imprints of kinaesthetically and vocally defined actions as there is a true co-dependence of the graphic, vocal, and gestural manifestations in the multi-media process of representation.

As in the case of the earlier phases, the emergence of the new form of substitution for actions does not suppress pictorial activity of the nature found in the Iconicity 1 and 2 phases. The Iconicity 3 phase marks, however, another bifurcation where traces and print making leads to graphic manifestations depicting actions on one hand, and informal scribbling on the other. At the same time, experimentation with shapes and further efforts to increase predictability and regularity of visual forms continues.

In terms of social interaction the impact of others becomes increasingly evident. Children begin to mimic each other's iconic gestures and sounds, the simulation activity being of a generic nature. It is also possible to argue that the questioning and feedback received from adults are conducive to the compression of this phase. Since adults tend to regard early pictorial production as marks that possibly stand for things, the kinds of questions and prompts which they offer may be conducive for children to believe that they in fact can or should produce such equivalences.

If a child tells an adult, in response to the question "what is it?" that he or she drew "a car driving 'round and 'round," the question likely to follow is: "where is the car?" Since the car itself was not the subject of the pictorial substitution, the child may either respond with an explanation "it is gone," randomly point to an area and state "there it is," or simply leave the question unanswered. Adult insistence on decoding images in terms of the presence of things and objects may, however, communicate to a child that there is something illegitimate about making substitutions for actions only, or that at least they have less value than icons of things. It is possible then to speculate that this earliest form of mediation of the common societal expectations in regard to visual imagery may prompt children to pursue the possibility of changing the focus of substitution attempts.

Iconicity 4

The basic distinction between the Iconicity 3 and Iconicity 4 phases is that the latter is characterized by a recognition of the potential of graphic forms, rather than graphic actions, to stand for objects and things, rather than dynamic events. It is the point when a child realizes the potential of a graphic mark to represent an element in the environment rather than an event. The substitution process occurs through a multi-media channel with iconic gestures and verbal indicators playing a significant role.

This phase is dominated by the generic tendency with recognition and classification of shapes underlying its development. Arnheim (1974) claims that shapes are carriers of basic rather than explicitly taught meanings, and that substitution rests on the invention of forms that become structurally or dynamically equivalent to the object. Naturally, this conception of equivalence or stand for relationships does not reflect an inaccurate percept of the object itself nor the category to which the object belongs (Golomb, 1992). Representation according to Arnheim (1974) and Rosh (1973, 1975) does not rest on the identity of elements but on prototypical or abstract properties.

Two strategies in the substitution process can be detected during the Iconicity 4 phases. Their presence has been earlier acknowledged by Hurwitz and Day who concluded that "on one hand (. . .) the shapes they (children) produce in their controlled manipulations remind them of objects in the environment. On the other hand, the dawning realization that marks or shapes can convey meaning, together with a newly acquired skill to produce them at will, may prompt them to create their own symbols" (1991, p. 72)

The "reading-off" the already created marks strategy attributes meaning to shapes based on perceived associative visual cues. The web of lines on Jan's drawing (Figure 3) became an Easter Bunny as soon as one of the loops brought upon an association with a rabbit's ear and prompted the addition of the second ear and other "bunny features." It can be argued that during the Iconicity 4 phase the visual cues contained in the graphic forms and the visual

Figure 3. *Jan's Easter Bunny.*

resemblance of marks to shapes and forms in the environment for the first time serve as devices in the substitution process.

The second strategy involves purposefully inventing equivalences for things which are to be represented. This form of substitution may rely very little or, not at all, on visual cues and visual resemblance. The similarity or connecting dimension between the object and its pictorial equivalent may be of the nature described by Gombrich (1985) in his essay on hobbyhorse. In the same way in which a broomstick does not bear any visual resemblance to a horse, yet it shares a significant, from a child's perspective, attribute: it can be ridden on, children may select from the array of possible associative clues the ones to guide their pictorial representations. And, clearly, even within the realm of the visual cues the selected features may be centered around properties other than a form.

When Antoni, age four-and-a-half, made this drawing about a trip to a shopping mall (Figure 4), he was not concerned with the topology of the place or the appearance of the individual stores, which in turn were the focus of his older brother's pictorial efforts (Figure 5). Instead, Antoni made sure that all stores were represented in his drawing differentiated through the use of color: red was used to indicate "the strawberry store," pink

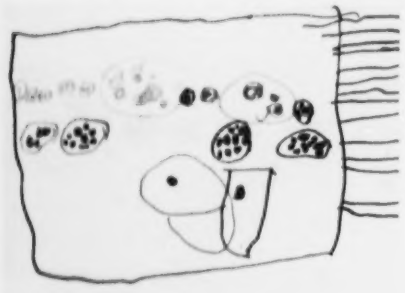

Figure 4. *Antoni's trip to a shopping mall.*

Figure 5. *Jan's version of the shopping mall.*

to record the store where he saw cotton candy, and so on.

The graphic image was only a part of Antoni's production, which was greatly enhanced by a verbal commentary detailing various trip events and gestures indicating which way he needed to turn to find the right store. While on the level of graphic production the generic tendency took clear precedence over the individuate explorations, when viewed as a multi-media production, the substitution process was also subject to the individuate influence. It is the verbal channel, however, that accomplishes, at this time, most of individualization. It can be argued, then, that "undifferentiated" graphic symbols do in fact possess more specifically defined identity, supplied, however, through non-pictorial channels. Our approach to what has been referred to in literature as "young children's art" points to a possibility of it being a multimedia rather than a uni-medium phenomenon. Instead of conceptualizing early pictorial attempts of children as manifestations of intentions to produce two-dimensional graphic solutions to problems of representation of elements of the three dimensional world (as has been suggested by Arnheim, 1969, 1974, for example), we approach young children's drawings as only componential evidence of the substitution efforts. Observations of young children in naturalistic settings—at home, in preschools, and day-

cares—documented the fundamental role of speech, iconic gestures, and even elements of interactive play with others, in the construction of pictorial representations in the early childhood years (e.g., Kindler, 1994).

Social interactions acquire new significance during the Iconicity 4 phase. It is possible to argue that the recognition of the possibility of existence of pictorial equivalences for objects and things may be, at least to some extent, socially mediated. Golomb (1992) suggests that early naming of scribbles, for example, is motivated by adult demands for explanations of children's scribbles. Furthermore, it is worthwhile to notice that such demands may also indicate to a child the potential of a multi-media rather than purely graphic substitutions. The praise which children are likely to receive at this stage, when they can successfully account for the marks which they produced, may be an encouraging factor to use the verbal language as an integral part of substitutions involving a graphic component.

The effect of social context also exercises itself in the form of attention which children begin to give to the pictorial work of others, and children's first attempts to simulate or provide equivalences for images produced by siblings or friends. In our research, we have gathered evidence that children as young as three develop interest in "re-telling" pictorial accounts of their peers, and especially their older siblings and friends.

Graphic production of children during the Iconicity 4 phase encompasses shapes which acquire meaning through some basic resemblance along either visual or functional attributes, and which become differentiated largely through the use of vocal and gestural means. The geometric and informal scribbling, as well as the marks, imprints of actions, continue, however, to permeate pictorial imagery.

Iconicity 5

Iconicity 5 phase is characterized by a competent use of semiotic process and extensive explorations in the realm of visual imagery. During this time there is an interesting interplay among the two tendencies with shifting influence and significance.

On one hand, the functioning within the limits of the generic tendency is now sophisticated and mastered. Children can readily produce acceptable to them pictorial substitutes for objects and display an ease and ability in a synthetic selection of defining features and attributes. Pictorial production also becomes increasingly dominated by a "visual graphic logic that dictates what parts need to be drawn for a specific figure and how this is to be done" (Golomb, 1992)

On the other hand, the individuate tendency is clearly manifested in the increasing interest in the particular, the unusual, the special. At the same time when Jan's pictorial imagery was dominated by very slightly differentiated icons of humans, his graphic repertoire included also highly detailed images like this portrait of his brother suffering from chicken pox (Figure 6). During this phase, the circumstance surrounding the production of an image, its theme, and its purpose, seem to determine which tendency, the individ-

Figure 6. *Jan's portrait of Antoni with chicken pox.*

uate or the generic, plays the dominating role in the substitution process. On some occasions, the presence of the two tendencies can be detected within a single picture. While the icon for a human figure in Figure 7 seems to be stable and generically defined, the necessary variety and individualisation is accomplished through the rendition of hats.

Children at this point are usually praised for their pictorial efforts by adults and peers impressed with the fluency with which children can use and manipulate pictorial imagery. It is also the time when, in the contemporary Western culture, children's pictorial production, especially of the kind indicating influence of the individuate tendency, acquires a full status of "children's art." Pictorial imagery can function as a self-sufficient statement for the interpreters, even though it still is a part of a multi-media production.

During the Iconicity 5 phase children often engage in both egocentric and social speech during their pictorial production (Thompson & Bales, 1991; Kindler & Thompson, 1994) and readily interact with each other, thus providing additional information and verbally filling in the missing parts. When children show their drawings to friends, parents, or preschool teachers they are likely to offer additional commentary and use iconic gestures to assure accurate understanding of their drawings. Verbal interactions among peers serve an important function in young children's development of pictorial imagery as they allow for peer consultations and feedback that have a potential of affecting graphic production (Kindler & Thompson, 1994).

During the Iconicity 5 phase there is an increase in the influence which images of others play in the development of children's pictorial imagery. Children spontaneously engage in imitative behavior which extends beyond what could be considered as attempts to make copies of images produced by others, and involves re-interpretation and re-invention of popular culture themes as well as images produced by peers and older children.

While from the Western cultural perspective art making is a solitary experience, children at the Iconicity 5 phase do not exhibit the need for such autonomy. Whether on the level of verbal interactions, gestures, or dramatic play which accompanies image making, pictorial production of young children is often a social event. Some images are in fact collaboratively produced. We were able to observe in one of our research projects an extreme case of such collaboration (Kindler & Darras, 1994). Two preschool age girls were engaged in making an easel painting of a bird. The role of each of them was distinct and clearly defined; one was providing detailed verbal description of what was supposed to be done on paper, while the other one patiently followed the instructions. When the image was finished, both of the girls claimed its ownership with each one recognizing her proper contribution.

During the Iconicity 5 phase, images produced by children also begin to serve as accessories to social play. As children create badges, signs to be posted on doors, head pieces and swords, and draw racing car tracks, they increasingly venture into the pictorial worlds which they share and explore with others.

Initial Imagery

The Iconicity 5 phase provides foundations for the development of initial imagery (Darras, 1992a). Initial imagery is an iconic system which develops early in life and which displays a tremendous resistance to change. This is the very system of pictorial signs which unifies graphic production of children and adult art novices (Darras, 1994). It is heavily influenced by the generic tendency with simple but stable schema which seem to satisfy the basic needs in pictorial representation. Initial imagery does not involve individualization, and is concerned

Figure 7. *Generic and individuate tendencies in a single picture.*

with the generic, rather than the specific. For most people who do not benefit from education in the arts, visual imagery never acquires a true autonomy as an independent, developed graphic system. It often functions as a part of multi-media productions involving verbal and gestural manifestations. While not very sophisticated in its own right, the initial imagery system provides solid bases from which, under an appropriate set of circumstances including exposure to quality art education, new forms of imagery can develop.

Conclusions

Our attempt to describe the emergence and development of pictorial imagery as a complex, multi-faceted process is in congruence with Vygotsky's (1978) notion of the nature of human development. "Within a general process of development," Vygotsky wrote, "two qualitatively different lines of development can be distinguished: the elementary processes, which are of biological origin, on one hand, and the higher psychological functions, of socio-cultural origin, on the other" (p. 46). The model which we proposed clearly accounts for the influence of both of these factors. It emphasizes the significance of socially mediated expectations and values and considers the impact of these influences in the development of pictorial imagery of young children. We have also indicated, that, unlike most art of adults in the Western cultural tradition, pictorial imagery of young children is a component of a multi-media substitution process, where equivalences for actions, objects, and people are often constructed through a simultaneous use of graphic, vocal, and gestural elements. Such understanding of artistic development of young children lead to the recommendation that in the early childhood art education approaches, emphasis should be placed on strategies which recognize contribution of language, movement, and socially mediated learning in art related explorations.

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Drawing as Representation: The Child's Acquisition of a Meaningful Graphic Language

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The study of children's drawings has engaged the interest of psychologists, educators, anthropologists and artists for the last 100 years. The first publications devoted to child art and its systematic exploration appeared around the turn of the century. They fostered a new appreciation of children's drawings which were now valued for the illumination of the mental life of children. Viewed within a developmental framework, the drawings provided a chronicle of the steps the human mind takes from what was seen as a primitive state to a phase of intellectual enlightenment. The so-called peculiarities of children's drawings, for example, the omission of parts and their misplacement, the transparencies, the odd proportions and disregard for the relative size of figures, the schematic nature of the drawings and the absence of realism, were all seen as typical manifestations of an immature and confused mind. This attitude toward child art received powerful support in Piaget's writings (Piaget, 1928, 1951; Piaget & Inhelder, 1956), and continues to exert a significant influence on current research in this domain. In this chapter we pose the question of how we currently understand drawing development and its relation to the child's mental representational status, and how well Piaget's theory with its end goal of realism has fared.

I shall begin my inquiry with a review of Piaget's concept of representation and its extension to the graphic domain. Next, I shall assess the status of his concept of childhood realism in the light of recent findings by investigators of the child's "theory of mind." The concept of representation will then be examined in an art historical context with a focus on its status in Arnheim's psychology of art. Finally, I shall draw a distinction between the study of child art as a spontaneous as well as trained endeavor, and distinguish it from studies devoted to an examination of how children, in an experimental context, deal with drawings of a set of assigned items.

Piaget's Theory of Drawing Development

Piaget's concept of representation in its widest sense concerns all thought that is based on a system of concepts or mental schemata. In its narrow sense, representation is restricted to the mental image, the internal model that allows for the evocation of absent realities. When representation refers to the mental image, its appearance is viewed as a major milestone in the development of symbolic thought which is based on the differentiation between a signifier and a signified, that is, on the distinction between a symbol and its referent. This symbolic capacity emerges during the end of the sensorimotor period and undergoes profound changes during the preoperational period. As with other forms of thought, Piaget sees the origin of the symbolic function in earlier behaviors that characterize sensorimotor intelligence, and he identifies imitative behavior as the precursor of the mental or symbolic image. Piaget subsumes imitation and thus also the mental image-as-symbol under accommodation, the activity of visual, tactile, and kinesthetic exploration of an external object, an activity which becomes interiorized in the form of a mental image. True symbols, which are the hallmark of a differentiated mental activity,

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point beyond themselves to a different realm of meanings supplied by thought and the product of assimilation. Symbolic thought in its early phases represents a significant step in the construction of human intelligence, and it finds expression in mental images, drawing, symbolic play, language, dreams, song, and dance. All these activities require symbolic capacities, the basic differentiation and coordination of the signifier and the signified. While the capacity for symbolization heralds a new period in intellectual and also affective development, this mental activity is marked by an imbalance between assimilation and accommodation and yields a distorted view of self and others, of mental life and reality.

In his important book *Play, Dreams and Imitation* (1951) Piaget relates the nature of the mental image to the preschool child's drawings:

> as far as children from two to seven are concerned there is little attempt to imitate the details of a model, and the imitation is of a very general character. For instance, in copying a plane, a house or a tower, although they follow a general plan related to the perceived object they are easily satisfied as regards detail. In this respect imitation can be compared to drawing at the same level, drawing also being imitation and thus constituting a special case of the behaviors we are attempting to analyze. We are familiar, through the interesting works of Luquet, with the essential characteristics of the "image" which is the starting point of drawing-imitation, the "internal model" which leads to intellectual realism, the incapacity to synthesize, and to devices used by children in their drawings . . . both the syncretic character of the first representative imitations and the various characteristics of imitative drawing, are the expression of the essential laws of perceptive activity at this level . . . which being incapable of analysis and comparison, of anticipation and transposition, leaves the child passive in the presence of what he perceives. This syncretism of perceptive activity explains both the relative rigidity of children's imagery and the essential aspects of imitation and drawing (pp. 77–78).

In the influential book *The Child's Conception of Space* (Piaget & Inhelder, 1956), Piaget provides an extensive elaboration of his thesis that drawing development mirrors the child's construction of spatial-mathematical concepts. He discusses the similarity between drawing, copying, and matchstick arrangements of form as well as tactile exploration and recognition of objects, and finds a remarkable correspondence across tasks. In these diverse forms of representation the preschool child starts with the discovery of topological relations, a qualitative and nonmetric representation of space that is ignorant of euclidean relations of proportion, length, distance, and shape, and unconcerned with the projective relations of perspective. These drawings, according to Piaget, reveal the child's *synthetic incapacity*.

The next stage, which extends from approximately ages four to seven or eight, is characterized by *intellectual realism*. The child includes more details in his drawings and they are better ordered, but topological principles continue to dominate and yield a distorted view of the object. The child's representation of space still reflects only a primitive level of understanding and a concern with relations that are merely internal to a figure. At this stage there is only a limited correspondence between the drawing and its model, and the drawings show a set of conspicuous errors such as transparencies, mixed views, fold-out figures, and lack of proper occlusion of parts that are invisible from a particular station point. The child's drawings combine aspects that are visible from different viewpoints and present his knowledge rather than the actual perception of the object.

These limitations are overcome at the next stage of drawing development which is characterized by *visual realism*. Projective and euclidean relations develop from the earlier topological ones and

begin to be organized according to a coordinate point of view. Intellectual realism is on the decline and is gradually replaced by visual realism that depicts objects more accurately and portrays them with some degree of photographic fidelity.

Thus Piaget's account of drawing development mirrors his account of conceptual development with realism in art as the hypothesized endpoint of this development, a mark that accommodation and assimilation are well coordinated and yield equilibrated structures that ensure reversibility. In this process, the concrete operational child's mental image reflects a more sophisticated analysis of the object and presents a reintegration of imitation in intelligence. "Younger children draw merely to represent objects, whereas older children include their drawings in systems of wider intellectual significance" (Piaget, 1951, p. 288). It is important to point out that Piaget did not study artistic development in its own right but as one of many indices of the child's developing conceptual structures, and that he interpreted drawings from the vantage point of realism as an optimal developmental achievement. Piaget's influence on current theorizing can be seen in the work of authors who view graphic development as moving from an object centered description to a view centered one, from intellectual realism to visual realism as a higher from of representational achievement.

Perspectives from the Child's Theory of Mind

Piaget's view of the prelogical nature of the preschool child's mind, of its cognitive egocentricity, lack of perspective taking, and realism, that is, the failure to distinguish between mental and physical attributes, has been challenged by proponents of the research on the child's "theory of mind" (Estes, Wellman, & Woolley, 1986; Leslie, 1987; Perner, 1991; Wellman, 1990). A major concern of investigators in this field has been the nature of the relationship of the child's representation to reality and the acquisition of knowledge. Does the child think of his image or thought as an accurate copy of the object or event, or does he have some understanding of false and perhaps many possible representations, that is, does the child conceive of the constructive aspect of representation? A series of empirical studies on the child's ability to distinguish between appearance and reality, fiction and reality, dreams, make-belief, and the understanding of false belief, have seriously challenged Piaget's assumptions (Chandler & Hala, in press; Flavell, Flavell, & Green, 1987; Estes, Wellman, & Woolley, 1989; Leslie, 1987; Wellman, 1990; Woolley & Wellman, 1990). These studies reveal a much greater representational competence than Piaget held possible, and suggest a continuity between the child's naive theory of mind and that of the adult. Representational development as conceived by Wellman progresses from an early understanding of desire and intentionality in toddlers, to an understanding of pretense in three-year-olds, and false belief in four-year-olds. The findings reveal a diversity of mental representational skills and competencies rather than a uniform acquisition of a single conceptual structure. The correspondence between mental representation and an aspect of reality is a complex achievement that undergoes significant transformations that eventually yield an understanding of mind as an interpretive and constructive activity.

The ingenious empirical investigations into childhood "realism" have seriously challenged Piaget's notion of the distorted representational image of the preschool child. Given this extensive rethinking of the child's representational abilities, how has this work affected Piaget's theory of drawing development? While much new research has led to the distinction between competence and performance, to analyses of task effects and the child's

definition of the task (Cox, 1981, 1985, 1992; Freeman, 1980; Golomb, 1973, 1974, 1987, 1992; Light, et al., 1980, 1981, 1983; Moore, 1986; Willats, 1977, 1985), there is considerable attachment to Piaget's notions of intellectual and visual realism as major milestones in the child's graphic development. This conception entails a somewhat literal assumption of correspondence between mental state—drawing—reality, and seems impervious to a conception of the arts as a unique domain.

Perspectives from Art History

Concerns with the nature of representation in the pictorial domain have a long history in the visual arts, and have moved to center stage with the birth of art history as a scholarly discipline in the 19th century. The views of art historians on pictorial representation are of considerable interest to the psychologist who studies child art and its development. Among contemporary art historians, Ernst Gombrich's position is of particular importance since he has written extensively about the nature of representational change over the period that extends from the Renaissance to the 19th century (Gombrich, 1950; 1969). He has set himself the task to account for the diversity of styles that date from prehistoric times to the present, and to elucidate the specialized developments in naturalistic representations of the artists who perfected the pictorial inventions of their Renaissance predecessors.

A central tenet of Gombrich is that art making is a complex and demanding endeavor, a function of extensive training in the artistic traditions that prevail in the culture. Art making is not the result of a naive beholder who intensively observes nature. In Gombrich's analysis, all artists study the pictorial techniques of the masters who preceded them; they attempt to approximate them and to extend their discoveries. This goal is accomplished by a process of "making and matching," by trial and error experimentation. Nature cannot be copied on a two-dimensional plane and does not provide the vocabulary necessary for painting. Whatever correspondences the artist creates, they are not based on an identity of elements but on structural relationships within a matrix (Gombrich, 1969).

Gombrich proposes that all pictorial representation begins with schematic forms, and that it takes special efforts to overcome the natural trend toward schemas. In his words "The 'Egyptian' in us can be suppressed, but he can never quite be defeated" (1969, p. 395). Gombrich rejects the old distinction between seeing and knowing and asserts that in all styles the artist has to rely on a vocabulary of forms. It is the knowledge of this vocabulary rather than of objects that distinguishes the skilled from the unskilled. "The world may be approached from a different angle and the information given may yet be the same . . . the correct portrait, like the useful map, is an end product on a long road through schema and correction. It is not a faithful record of visual experience but the faithful construction of a relational model" (Gombrich, 1969, p. 90). While he acknowledges the possibility of diverse stylistic routes in the pictorial medium, and states that the goal of conveying information rather than its style is the determining evaluative factor, he lauds the achievements of the post Renaissance era and its ever increasing sophistication in the rendering of pictorial space.

For this author of major works that extol the virtue of naturalism and its successive approximations to the goal of realistic renderings, his reminder that drawings and paintings are not simple correlates of intelligence nor a function of studying nature or of adopting a strictly view-centered approach, ought to be taken seriously by students of children's drawings.

While such philosophers of art as Nel-

son Goodman and Richard Bernheimer differ in their analysis of the nature of artistic symbols and their defining properties, there is widespread consensus that pictorial representation is an interpretation rather than a form of imitation (Goodman, 1969; Bernheimer, 1961). Thus the issue of "likeness" needs to be addressed. In Bernheimer's words: "We suggest that it is a representation so disposed that the manner in which its materials are arranged reflects some aspects or projection of its subject . . . for likenesses, so we must insist, are always partial and incomplete and thus fundamentally different from duplicates and replicas. Any theory that sees the artist's task as that of counterfeiting reality rather than expanding and translating it must thus be emphatically denied . . . it is then clear that the very existence of a likeness implies that there may be others differently conceived and viewed from different vantage points but reproducing the same theme" (1961, p. 137). Nelson Goodman also rejects the notion of imitation, the notion that the object is to be copied by the "innocent eye." Art is interpretation, and Goodman rejects the contention that perspective yields an absolute standard of fidelity. Pictures in perspective, like any others have to be read, an ability that has to be acquired. Representation requires invention, and "Realism is relative, determined by the system of representation standard for a given culture or person at a given time. . . . If representation is a matter of choice and correctness a matter of information, realism is a matter of habit" (Goodman, 1969, p. 37–38). Thus, both authors reject the notion that realism in art ought to be conceived as a natural endpoint of artistic development albeit for different reasons. A similar position is espoused by Hans Belting in *The End of the History of Art?* (1987) who concludes that "we must abandon the notion of a single, unidirectional process."

Arnheim's Theory of Representation

For the student of child art, the issue of representational development formulated within the broader context of a psychology of art has been most incisively addressed by Rudolf Arnheim. With his many publications, but especially his influential books *Art and Visual Perception* (1954; rev. 1974) and *Toward a Psychology of Art* (1966), he proposes a conceptual framework that is rooted in his extensive knowledge of the history of art and based on his theory of the psychology of the arts. Arnheim too contrasts the nature of representation with that of replication. However, unlike Gombrich and Goodman, he postulates an intrinsic fit between the representation and its referent. Representation requires the invention of forms that are structurally or dynamically *equivalent* to the object. In his view, artistic representation is not a reproduction of selected items, nor is it an attempt to copy reality. Its aim is to capture the structural characteristics of an object or scene in organized form. The naive notion that reality can be copied which has guided much of the developmental research into children's drawings rests on an inadequate analysis of representational processes and ignores the impact of the medium. In drawing and painting, the medium is a flat, two-dimensional surface and its tools are pencils, markers, crayons, brushes, and paints. The constraints of this medium preclude any real attempt to copy the three-dimensional solid world, and the child or adult artist has to invent a pictorial equivalent with the tools at his or her disposal, that is, to invent structurally adequate forms which can stand for the complex object. Artists do not aim for a one-to-one correspondence of elements, nor do they aspire to "copy" a scene, which is altogether impossible given the intrinsic differences between the properties of a two-dimensional medium and the three-dimensional world.

For Arnheim, human perceptual experience is a highly intelligent and dynamic activity to be contrasted with a view of perception as a passive imprint, akin to a photographic registration of the retinal image. Perception from its beginnings in infancy and childhood is conceived as an organized and adaptive process which enables humans to make sense of their environment and to respond to it in meaningful ways. However, the transition from perception to representation is not a simple process of duplication: it requires the invention of representational concepts that mediate between perceptual concepts derived from our direct experience of the world and its representation in a particular medium. Representational concepts are not automatically given in the perceptual experience. They require the conception of forms by which the perceived structure of the object can be represented within the chosen medium. In this view, representational concepts are the artist's inventions that transform perceptual concepts into forms that can stand for the object in some fundamental way. Thus, Arnheim's thesis of structural or dynamic equivalents replaces the notion of one-to-one correspondences of elements on which earlier views of drawing development were based. For Arnheim there is no real dichotomy between perception and cognition, between knowing and seeing. Cognition is based on perceptual experience, it is neither beyond nor outside it, and perceptual processes are imbued with an intelligence that is fundamental to productive thinking. This view of perception as a mental activity that structures experience encompasses both cognitive and affective processes in its claim that humans respond to the *expressive* features of their world.

In the development of human cognition, knowledge begins with generalities which undergo differentiation as the need arises. Like all thought, the development of artistic thinking begins with the creation of highly abstract and simplified forms and only later does the artist strive for a more complex representation. Arnheim conceives of this trend as a general law that applies to all forms of life, to the organic, the psychological, and the social. This law of differentiation also determines development in the visual arts; it makes the changes we see in child art comprehensible and applies with equal validity to adult art and to an understanding of primitive or prehistoric art. According to Arnheim, all representational beginnings are based on highly abstract and simplified forms that the novice can conceive of and give form to. With development comes a desire for greater complexity, and the ambition as well as the skill to depict the multiple aspects and meanings of an object. This law applies to the representation of single objects as well as to the composition as a whole.

Arnheim's conception of differentiation implies that there are multiple solutions to representational problems, and that there is no objective priority for any one form over another. In all its phases, the process of differentiation reveals the level of visual thinking reached by the individual who grapples with the task to represent a complex three-dimensional object extended in space on a flat two-dimensional surface. He describes this process as a journey of discovery, of learning a language that is unique to the two-dimensional medium and involves a progression from simple to complex solutions, all of which are based on visual thinking. Arnheim postulates two forces: an internal one that strives toward simplicity, and an external one where the object makes its own demands on the nature of the representation. At an early level of development, abstraction or simple generalized forms are the only options available to the inexperienced artist, the true starting point for representational development.

Arnheim's reformulation of the nature of artistic representation is of special significance for students of child art. If art is to be understood as a search of

equivalences of form at each level of development, a new set of questions would have to guide its inquiry. If all artistic endeavors start from simple and highly abstract representations, and if these representations can be seen as adequate forms of equivalence at their level of differentiation, a different type of analysis would have to be developed. This analysis would focus on the intrinsic visual or graphic logic exhibited by a drawing rather than on its supposed defects in terms of a hypothetical standard of realism.

A New Psychology of Child Art

Arnheim's influence on the new psychology of children's drawings has been far-reaching in its direct as well as indirect impact on the field. In general, investigators no longer assume that a child's concept or image finds direct expression in his or her drawing, and studies have focused on the effects of the medium, the nature of the task and its instructions, the difficulties of production, the impact of experience, training, and talent (Cox, 1992; Davis, 1983; Freeman, 1980; Goldsmith, 1992; Golomb, 1992a, 1992b; Light & MacIntosh, 1980; Light & Simmons, 1983; Moore, 1986; Pariser, 1987; Willats, 1977; Winner, 1982; Zimmerman, 1992). However, the notion of parallel "achievements" across domains continues to inspire investigators who examine children's drawings from a Piagetian perspective in search of the stage of visual realism that ought to correspond to concrete operational reasoning. Assumptions of realism or naturalism as the desired endgoal of development persist and guide the design of many developmental studies and the analysis of their data. Despite the widely reported findings that typical "child art" productions continue to dominate the middle childhood years and beyond, and that perspective rendering is not a common achievement even during adolescence, the stage conception that postulates a shift from intellectual to visual realism is often appealed to, and data tend to be forced into an uncomfortable fit within an outdated theoretical model (see, for example, Charman & Baron-Cohen, 1993). Evidently, our cultural values and expectations of realism are a strong force to contend with; they provide a comfortable degree of certainty about developmental goals and achievements in the visual arts that are difficult to match within alternative frameworks. However, the notion of a unilinear development that approximates realism in art has not gone unchallenged (see, for example, Golomb, 1992a, 1993; Hagen, 1986; Pariser, 1983; Rush, 1984; Wolf & Perry, 1988).

Reassessing the Nature of the Child's Graphic Representation

Long before children produce their first recognizable figures in the graphic domain of representation, infants show remarkable abilities to recognize photographs and simple line drawings (DeLoache, Strauss, & Maynard, 1979; Fagan & Singer, 1979; Lewis & Brooks-Gunn, 1979; Hochberg & Brooks, 1962), and newborns show marked visual preferences for the human face, even in its schematic form of representation (Goren, Sarty, & Wu, 1975). Such recognition seems to be based on highly simplified configurations that reproduce in an abstract manner certain structural characteristics of the figure. This capacity to perceive equivalences across different media and domains, in the absence of one-to-one correspondences, across diverse orientations of the object and changes in the position from which it can be viewed, may well be one of the foundations for the child's spontaneously emerging ability to recognize his first drawn figures as representations of highly complex objects. The well-known progression from the early tadpole figures to the more detailed representation of

animate and inanimate objects exhibits a developmental logic of differentiation in the graphic medium that yields increasingly more articulated figures and compositional arrangements. Differentiation can take many forms that yield diverse pictorial representations ranging from highly decorative, folk-art style drawings and paintings to experimentation with different three-dimensional pictorial devices. Undoubtedly, culturally sanctioned forms and norms play an important role in the art work of older children and adolescents. There is, however, no strict progression from a so-called object-centered or conceptual representation to a view-centered representation. At all levels of representation we find evidence for an interest in how objects look, what aspects can or cannot be represented in the two-dimensional medium, and the verbal commentary of the youngest children is meant to supplement the drawing and to convey its message more fully. Thus we see a young three year old drawing a rabbit composed of a head, eyes, nose, mouth, whiskers, ears, and legs, enclosing the figure in a large circle that wraps itself around all the previously drawn parts. The child inspects his figure and proclaims: "This [the circle] is his body . . . you can't see the tail because his body is so fat." Many more examples can be offered that show the preschooler's acute awareness of what remains invisible in a picture from a particular viewing position, for example, that the person is wrapped in a big towel so you can't see his body and legs (Golomb, 1974, 1992) or that a belt is drawn as a full circle to graphically capture its quality of surrounding the body (Wolf & Perry, 1988). Other studies reveal children's attention to a figure's orientation, to what is visible from a particular vantage point, and to the visually defined characteristics of objects when the theme and/or the instructions seem to call for a change from the preferred frontal plane and the simple contour drawings (Light, 1985; Golomb, 1992; Smith & Fucigna, 1988).

As these comments indicate, the child is aware of what the object or figure looks like, and cognizant of what he or she can or cannot depict; his commentary on his drawings complements the viewer's information indicating that the visual appearance of the object is important. When we step outside our value system of judging drawings as faithful replicas of objects, we are struck by the insight of preschoolers that the drawing is a mere representation and not a copy. The cognitive processes that underlie this achievement indicate a competence to relate objects and their graphic representation in a meaningful manner which does not confuse one with the other. It indicates a representational mind that can deal with the duality of the object in the real world and its graphic, that is, mental representation, and that the two lead independent existences. In this domain, the three year old who draws his mommy as a tadpole figure does not subscribe to a "copy" theory of mind, or to a "situational theory" of early representation (Perner, 1991). The same child would be horrified to see his mommy transformed into a tadpole, but he accepts his drawings as a reasonable equivalent, the best he or she can do on paper. These youngsters develop an understanding of change and constancy, as when a two-and-a-half-year-old looks at an album of his photographs dating from birth through his infancy and shows a fascination with himself at the various time periods depicted. Thus, even preschoolers attempt to create meaningful pictorial representations of objects and events, and the issue of visual likeness is of great importance to them.

Just as we find three-year-olds cognizant of the visually perceived aspects they cannot yet depict, we also find gifted youngsters such as Eytan who, as preschoolers, create complex three-dimensional representations of objects and scenes, a function of their insatiable quest to depict their perception of the object (Golomb, 1992a, 1992b) (see Figures 1–

4). Equally interesting is the work of artistically gifted but mentally retarded autistic children such as Nadia and Steven Wiltshire, who represent the world in stunning detail with realism as their favorite style of representation (Selfe, 1977; Wiltshire, 1987, 1989, 1991). By contrast with these so-called gifted children, but equally significant for our developmental analysis, is the finding that in contemporary Western societies, adolescents and most adults appear to be "arrested" at a child's level of depiction, and that the great majority never acquires perspective drawing skills. When we contrast this finding with reports on graphic skills acquisition in the public schools of 19th century America (Clark, 1885, as reported by Korzenik, in preparation), the issue is no longer one of a natural progression toward graphic illusionist competence but one of graphic skills training and apprenticeship. Without training, either by a professional instructor or self-taught, most individuals, children as well as adults, do not develop much beyond a simple child art style in orthographic projection, what Piaget termed intellectual realism in drawing. The decalage so often reported between Piagetian operations (concrete and formal) and drawing competence reveals a major flaw in the theory.

I propose to situate drawing development within the broader framework of the visual arts, as a symbolic representational effort where different styles of representation do not indicate that one is more "symbolic" than another. Children strive to develop a meaningful graphic language that conveys a message. This language, which is based on visual thinking, enables the artist to create forms of equivalence that, within the chosen medium, can stand for an aspect of the world. It is a language that largely follows its own rule system, although it is modified by experience, by exposure

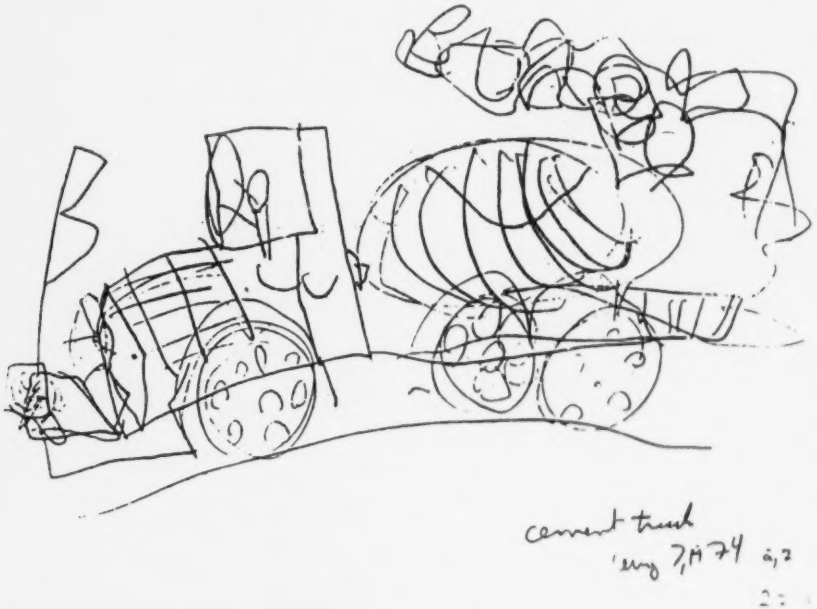

Figure 1. *Eytan, age 2.7. Cement truck.*

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Figure 2. *Eytan, age 3.7. Desert scene.*

to models valued by the culture and the tools available to the artist. It is important to distinguish between the spontaneous beginnings of graphic representation, that is, the efforts to develop a coherent system of pictorial representation that does justice to the child's intentions, and the graphic achievements of a later period, which carry the imprint of training and the acquisition of specific skills. The study of what appears to be spontaneous child art and its evolution, and the study of children's responses to the highly artificial tasks of a time-limited experimental situation need to be differentiated. In the case of child art and its common developmental trajectory, we find that figural differentiation, composition, and spatial representational techniques in drawings tend to reach a plateau during the middle childhood years. Of course, the exceptions to this rule are unusually gifted and motivated children. That this outcome might be very different if we adopted a curriculum geared to the teaching of graphic arts can be gleaned from reports on the artworks of children in China and Japan (Wilson & Wilson, 1985; Winner, 1989), and accounts of the drawings of 19th century school children in America (Korzenik, in preparation). In terms of experimental tasks that require the adoption of a special attitude toward a display, that dictate a special viewing position vis-à-vis an object, one is reminded of Gombrich's statement that "The relationships in the plane that the illusionist painter has learned to attend to are of no biological relevance. They are studied in the highly artificial situation of one-eyed stationary vision" (Gombrich, 1969, p. 329). This approach to testing for certain "competencies" is not very conducive to tapping the child's potential for learning, and one might better ask what kind of learning experiences facilitate, for ex-

Figure 3. *Eytan, age 4.4. Cement truck.*

ample, perspective rendering of a scene, and are there age levels at which such training is more effective than at others?

In summary, the schematic drawings produced by children and adults do not directly map image onto paper. The development of graphic representation in children of different eras and geographical locations indicates that pictorial representation is based on the invention of equivalences across a broad range of forms. Graphic representation is a construction which is never mistaken for the real object. It is an interpretation and indicates an awareness that it merely "stands for" an aspect of reality. In the same child, dependent on the task, the theme, the mood, and the intention, different competencies may be portrayed using one-, two-, and three-dimensional lines and shapes for the same part. Drawing, from the very beginnings, is a symbolic representational enterprise and it continues to be so regardless of the conventions employed. The distinction between drawing what children know and what they see poses a false dichotomy. Older children include more detail, they are able to sustain their efforts for a longer time period, they consider the possibility of revising their work and learning techniques that will enhance their pictorial competence and permit a more comprehensive pictorial statement. This can be accomplished within an orthographic projection system or by adopting other projection systems. The developmental changes, however, do not support

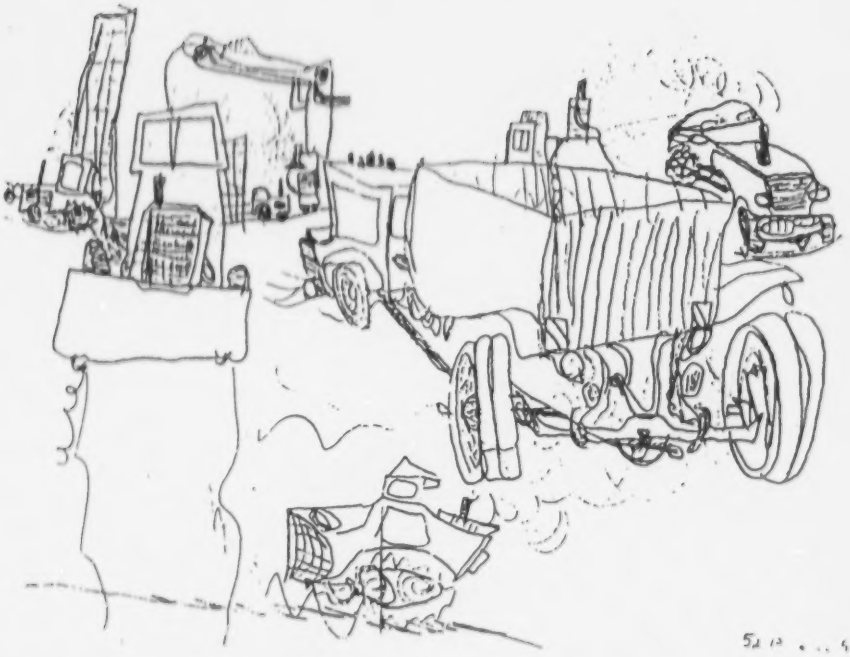

Figure 4. *Eytan, age 5.2. Construction scene.*

the notion that graphic development proceeds from knowledge to vision, a position that has been challenged in the literature (Golomb, 1992a, 1992b, 1993; Hagen, 1986; Reith, 1988; Smith & Fucigna, 1988; Wolf & Perry, 1988).

My critique of Piaget's account of drawing development and of the assumed close correspondence between the acquisition of spatial concepts and children's realistic renderings, is voiced, to a large extent, from a "Piagetian" perspective. Piaget's consistent emphasis on action as the essential means for the construction of sensorimotor intelligence implies that actions are performed on objects that exist within a social and physical space. Piaget's understanding of the acquisition of concrete operations during the middle school years again focuses on the child's encounter with the material world of objects, their arrangements and rearrangements that lead to the construction of reversible mental operations. His theory postulates an interactive, constructivist and self-regulating organism, which entails the view that the nature of the world of objects and materials plays an essential role in the way humans construct knowledge and engage in adaptive behavior. Piaget's theorizing about the arts, in which he had not shown a sustained interest, ignored his own principles about the material world as a medium for intelligent interaction. Instead, cognitive structures derived from particular experiences and interactions became the model for all domains of representation, a view that has been seriously challenged by investigators of the child's theory of mind and students of the psychology of child art.

Of course, it is a reasonable assumption that children, over time, acquire more

knowledge and skills in all domains of human concern, including the pictorial realm. The central question concerns the course of development, the nature of representational change, and the principles underlying this change. Previous theories, including Piaget's, have paid insufficient attention to the nature of pictorial representation and the role of the medium. They posited realism as an endpoint of development rather than viewing it as one of several possible pictorial achievements. Simplicity of representational model, lack of skill and practice, indifference to the demands of realism in art and to the cultural expectations of making accurate copies of reality need not by themselves indicate that the artist's conception of the object is limited or distorted, arrested at a primitive stage of conceptual development. The simple work of naive adults is a reminder that art-making occurs in a cultural context, that it is always the product of effort, of training, of cultural norms valued and aspired to. To bring the eye of the sophisticated adult to the work of children, without understanding the long route education and development take, is likely to distort our vision.

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Deep Structures in Children's Art: Development and Culture

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Abstract

Using detailed longitudinal studies in both London, England, and in Singapore, this paper investigates the beginnings of visual representation in early childhood. The study is concerned with understanding development and variation in the art of very young children and the implications this has for educational provision. It describes an interaction between an unfolding, natural, self-driven development, and what is available within the culture.

Evidence is offered to support the theory that underlying children's use and organization of visual media are certain robust forms of behaviour, or *deep structures* (after Chomsky). The study investigates how these structures interact with what is available in the environment.

Introduction

In this article I look at the beginnings of visual representation in early childhood in London, England, and in Singapore. It is concerned with understanding development and variation in the art of very young children and the implications this has for educational provision. It describes an interaction between an unfolding, natural, self-driven development, and what is available within the culture.

At present there seems to be some confusion over what, if anything, is universal, and what is culturally derived. Traditional studies, for example, Lowenfeld (1939) and Kellogg (1969), seem to suggest a universality about the development of children's art. Recent authors, however, have challenged the more dogmatic versions of universal "stage" theory, along with Western-ethnocentric assumptions which often accompany these models.

Wilson (1992), for example, has questioned Cizek's romantic notion of the child as a socially isolated artist whose naturally outpouring creativity is contaminated by cultural influence (in Viola, 1942).

Some adult influences *are* destructive to a developmental process, as I will later suggest. However, the romantic approach made teachers nervous about offering any advice at all to children, about their art. Kellogg, for example, more or less advises teachers to say nothing to children other than making encouraging noises.

Wilson and others have argued that development cannot occur outside of a social context and that children are assisted in their art-making by the availability of an image pool (Wilson, 1992).

Other writers have diminished the part played by natural development still further. Hagen (1985) for example, denies that there is any development at all, and explains the different artistic styles as the result of artists and children selecting from a finite set of projective geometrical systems. Other writers reduce the role of development by conceiving of children's art as the product of "discourse" between the child and ambient culture, rather than the product of nature (Atkinson, 1993). But what is meant by "discourse"? Do we mean the child's interaction with the available language, ideas, and cultural exemplars? Or do we expand this to encompass all aspects of the child's relationship to the environment? Following this path, the term becomes so diluted as to become useless, for it still fails to explain how the child's dialectical relationship to the world is organised.

The same problems exist with any theory that seeks to explain children's acquisition of representational skills in terms of imitation of available models. Children do not simply copy anything and every-

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thing. Their "copies" turn out to contain visual structures not present in the original. So the question remains as to the mechanisms that drive children's selection and use of available models.

Another problem with both Hagen's and Wilson's theories is that though they do acknowledge, albeit in passing, that there may be development in infancy, this leads to a curious anomaly. What is the status of this early development? Is there any relationship between this and what happens later? Is it a false start? Or is it a mere warming up of the sensory and visual systems for the "real" art-making which is to follow? If this was the case it would be very strange, for it would mean that there was initially a universal, natural process of drawing which then abruptly stopped, to be followed by a completely different one, in which the child copies images from his or her culture's image-pool (Golomb, 1991; Matthews, 1990). In this study, I hope to make clear that children's development in art is no more reliant on the availability of an image-pool, than language acquisition is reliant on a "heap of words" (Willats, 1983).

It is clearly vital to answer these questions if we are to truly understand the significance of children's art and to provide the kind of interaction and support that will encourage its growth.

The Data

The data derive from my 20 year study of London children plus a new, but incomplete study, being made in Singapore. In London, I made three very detailed longitudinal studies of my own children, two boys and one girl (Matthews, 1988, 1990, 1994). The studies of the two boys traced development from birth into teenage life. These studies were made in the home setting in which (using video and film) I observed and recorded, sometimes on a daily basis, the development of children's spontaneous drawing, painting, sculpture, and symbolic play.

Additionally, 40 children in a London Nursery class (mainly working class, mixed gender, and race) were studied over a two year period.

The Singapore study, now underway for 18 months, is only beginning. Using the same techniques, I observe and record the development of 40 children in a Nursery and Kindergarten school. The children are aged between 3 and 5 years. The school consists of 90% Chinese children and 10% Indian. 50% of the teaching is in English, 50% in Mandarin. I am assisted by two of my Chinese students. I also speak, read, and write a very little Mandarin. As with the London studies, I use micro-analysis of video recordings, plus long-hand notes. As much of the meaning of children's representation cannot be discerned in the finished product, I analyse the events of art making, rather than just the end-products.

I sometimes use the terms 2D and 3D to refer to drawings and sculpture as finished products. For representation which is extended in time, including painting and drawing as processes, as well as dance, movement, and symbolic play, I have adopted the term 4D.

From a complex interweave of behaviors, including painting, drawing, dancing, singing, playing, running, jumping, speaking, I try to identify the underlying themes, structures and agenda of the beginnings of representational thought. I use appropriate theoretical frameworks to help illuminate the possible meaning. The writers who have influenced my interpretation will be mentioned in the text but there is a clear debt to Jean Piaget, James Gibson, and Chris Athey.

The structures I have teased out of the messy data of home and school environment are extremely robust. To the trained observer they exhibit highly discernible characteristics. Adopting the terms Chomsky (1966) used for language acquisition, I call these *deep structures*. The London and Singapore studies strongly

suggest that these deep structures are universal. The deep structures act like structural principles, rules, or suggestions which form the basis of what may or may not be selected from the environment and underlie how children use and organise media of every kind.

The findings, so far, suggest that development is possible because of an interaction between a self-initiated and self-driven, universal, unfolding program of development, and what is available within the environment (Athey, 1990). Furthermore, the evidence suggests that this process is not tied to any particular culture.

Deep Structure

There are two types of deep structure: those which are concerned with the structure of objects and spatial layout, and those which are concerned with movement. Different types of deep structure are often intertwined. Children find that, within various forms and movements, the same invariant shapes and relations persist despite certain transformations these may undergo due to changes of context or media (see also Gibson's 1979 theory of *invariants*). Children investigate and represent these structures with fascination.

The deepest set of these invariant or deep structures consists of three types of arm movement which emerge in infancy. These are: the *horizontal arc*, in which the hand and arm is fanned from side to side in front of the body, the *vertical arc*, which is like a stabbing motion up and down in front of the body, and the *push pull*, in which the hand and arm are moved away from and toward the body. All three movements can be practised with held objects. The simplicity of such infantile movements turns out to be more apparent than real. They are imbued with powerful emotion and quickly acquire representational potential (Matthews, 1983, 1988, 1990; Matthews & Jessel, 1993).

A more complex set of deep structures includes *vertical and horizontal lines or directions of movement; ascending and descending trajectories, curving and rotational movements.* There is a more complex structure formed from a combination of actions which I have termed *travelling zigzag.* This itself has two additional variations, *travelling wave* and *loop.* These deep structures are types of movement in space and time.

Other deep structures are about position and location. These are *points in space,* either as *clustered points, scattered points* or *points in a series,* and *beginnings and ends of lines.* There is also a further level of deep structures which are formed of actions which specify more complex spatial relations. These include *covering, on-top-of; underneath; going through; going around; enclosure* and *inside and outside.*

Other types of structure are more complex still and are derived from combinations of the former. These include *right-angular connections; U shape on baseline; sinusoidal line; collinearity* and *concentricity.*

While there is a developmental sequence in which they appear, the earlier ones are not abandoned; in fact each set of deep structures is nested within a succeeding one (Matthews, 1990).

It is very important that this description is not construed simply as a classification of certain movements in space or shapes on paper. These structures are elements in a 4 dimensional language which form the basis of representational and expressive modes. It is essentially a set or family of behaviours which must be understood as a unitary whole. The structures are investigated both for their own sake and also for their representational potential. Together, they form all the patterns of understanding which lie beneath all representational and expressive modes which humans employ.

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Chaos and Order

The scene is a Kindergarten class in Singapore. A group of about 8 children (the number varies as they come and go) aged 4 to 5 years have been allowed their "free-play" time in an area approximately 5 × 5 meters and designated by the teachers as a "home" area. This is separated by shelves and kitchen equipment, from an area for construction toys. On the shelves are dressing-up clothes, a dressing table and mirror, and a low shelf made up as a bed, on which rest a collection of dolls and soft toys. On the "kitchen" table, and on the toy oven and sink, is a range of imitation toy foods, and a collection of pots, pans, woks, bowls, chopsticks, knives and forks.

Ming Wei has put on a pair of high-heeled shoes and a girl's straw hat with a red ribbon, and, carrying a stereo radio, she hobbles along into the kitchen area. Here, children are pretending to cook, serve, eat, and sell food. Amid the to and fro of children carrying pots, pans, and woks from place to place, sawing up toy pizza, picking up and serving both plastic and imaginary food with chopsticks, between children emptying imaginary liquids from pan to pan, beating or stirring food in woks, Ming Wei click-clacks by in her high-heels. She puts the radio down for a moment to pick up, from the dressing table, a little silver box. She opens its lid and looks inside. She takes off her hat and puts it down on the dressing table. Seng Tard puts the hat on. Ming Wei now picks a square orange silk scarf and wraps it around her waist like a skirt. She picks up the radio again and walks up to her friend, Ting Ting, who finds Ming Wei's outfit and performance highly amusing. Her laughter sets Ming Wei off and they both laugh. Ming Wei twirls around, to left and to right, the scarf-skirt flaring outward. She wraps the scarf more firmly around her waist. Then she takes it off and, pressing the front of her body against Ting Ting's back, she wraps the scarf around both of them. She gathers up the scarf again and trails it in the air, in a figure of eight. She then shows it to me. "Hen mei," I say in Mandarin ("very beautiful"). She trails it in the air again and then crumples it up into a ball. Nearby, Gaya, an Indian girl, undresses a doll. Ting Ting points to its bare bottom and she and Ming Wei both laugh. Ming Wei trails the scarf in the air as she laughs. Then she spreads it out again and covers some imitation food with it. She leaves this for a few moments and then uncovers the food. She twirls the scarf around again. then, holding an adjacent corner in each hand, she holds it over the back of her head. Then, with an overarm arcing of her hands, she brings it over her head and in front of her body. Then she vigorously flaps it up and down once, before moving a few paces and picking up a lipstick from the floor. She moves back to her previous position with a little hop. She waves the scarf in the air, moving it through a snaking spiral in space from side to side in front of her body. Holding the scarf by its corner and the lipstick in the same hand, she goes up to a boy, pretending to apply lipstick to his lips. He is reaching for the straw hat at this moment. She paints her own lips. She walks off holding the lipstick in her right hand whilst swinging the scarf up and down by her side. She collects the radio and walks off.

A boy, Kian Ping, holds a chopstick in each hand; another boy, Ee Choo, a toy knife in each hand. Both separately practise some graceful arm movements, thrusting and parrying. Then they have a pretend battle with each other. Another boy, Pheng Hwee, looks on and then joins in with a knife in each hand, taking over from Kian Ping. These two pretend to swordfight. They make graceful, spinning rotations of their bodies, their hands and arms. Ee Choo exchanges his knives for a pizza cutter and briefly sword fights with it before returning to cut the toy pizza. Kian Ping has now returned to the meal table and, with the hat, covers, then uncovers a bowl of fruit.

From the dressing-up clothes, Ee Choo picks up an adult male's shoe and pretends to hit Pheng Hwee on the head, timing the speed and force of this overarm trajectory so perfectly that the hand-held shoe stops dead, safely, a few centimeters from Pheng Hwee's head. They both laugh. Another boy sees this and joins in. Using a plastic spoon as the hand-held missile, he aims a similarly controlled trajectory against the sole of the shoe, which Ee Choo holds steady in the air.

Ee Choo pretends now to hit Pheng Hwee's knife with the shoe, carefully modulating the speed of the shoe's movement through the air and measuring the intensity of the moment of impact in an overarm arc, so that they collide harmlessly.

Another boy plays a game which consists of graceful movements of a hand-held toy swordfish through the air before him. Holding it in his right hand, he causes this toy to "fly" in graceful arcs in space, rising and falling, with a subtly stated weightless moment of apogee. He causes it to collide nose-to-nose with, and "kill," another fish held in his left hand. This dying fish is made to give a little wriggle, like a final convulsion, before he lowers it slowly down through space, as if it is falling, into a box containing other toy fish. He repeats this sequence twice more,

Figure 2. *Three and four year old's symbolic play in a Singaporean Nursery and Kindergarten. Behaviors which may seem trivial or imitative are actually* Deep Structures *of expression and representation. Stirring imaginary food for "makan" (Malay for "eating") serves as the vehicle for the investigation of* continuous rotation. *Dividing up a toy pizza helps the understanding of* angular variation. *Such Deep Structures are universal.*

Figure 3. *A boy tries on a hat. Certain "pivotal" objects (Vygotsky) act as loci for children, around which symbolism develops.*

Figure 1. *"Stepping in another's shoes" has to be understood at many levels — not just gender stereotyping. A 4 year old walks in high-heels.*

Figure 4. *The Deep Structure* going round. *Ming Wei wraps a scarf around herself and Ting Ting.*

Figures 5 & 6. *Not just copies of Gong Fu or Tai Chi — Ee Choo and Kian Ping investigate* dynamic trajectory *and* moment-of-impact.

with the second fight ending in defeat of the swordfish by a shark.

A 5-year-old girl plays a graceful flying game with an aeroplane she has built from a construction kit. She flies it gracefully through the air, describing slow, lazy spirals in space, turning her head at various angles in order to view it from different positions. A boy watches with interest and extends this kind of flying game with his own constructed aeroplane. He also moves it around through graceful aerobatics through space, modulating its speed, turning it over on its side as it banks steeply, and like the girl, studying it from different angles of vision.

Nearby, a boy pushes and pulls a wheeled construction back and forth on the carpet.

Outside, a 5-year-old girl looks at the chickens in their cage. Then she runs off, flapping her arms, and making 'pok-pok-pok'' sounds with her voice.

Two boys have formed a line of fish which passes through a tunnel formed by a box placed upside down and resting on its opened lid and one of its sides. One boy looks through the tunnel from one side, the other boy looks through from the other side.

Ming Wei is folding the scarf carefully and tucking it through the handle of the radio from one side to another. Then she folds the scarf carefully before finally unfolding it and covering the radio with it. Meanwhile, Ting Ting is dressing a boy in a yellow dress. Ming Wei leaves the covered radio on the floor, an enigmatic sculpture, whilst she goes to help Ting Ting dress the boy. Behind them, a boy irons a dress which he then tries to hang up on a clothes hanger. Ming Wei tries on a bomber jacket then takes it off and Ting Ting dresses her in the yellow dress. Behind them, two boys argue about who gets to wear the straw hat with the red ribbon. The boy who was ironing tries on the high-heeled shoes and applies lipstick to his lips. Just before tidying up time, he dresses in the yellow dress.

Analysis

The first impression of this event is of noise and confusion. The children seem to mill around, going from one activity to another, apparently randomly or, at best, guided by superficial whim. However, when one looks more closely, one starts to discern patterns of movement and behaviour. Certain actions recur, repeated by the same child in slightly different ways, or the same or similar actions are made by different children. Certain objects (straw hat, radio, scarf) seem to act as loci for some of these actions. These objects seem to be adopted by one child, then, as soon as they are put down, picked up by another. There also seems to be a repetition and

Figure 7. *With scarf and radio, Ming Wei investigates* going through. . . .

Figure 8. . . . *and* going over *and* covering.

Figure 9. Covering. *A Deep Structure may have many levels of meaning. Ming Wei and Ting Ting put a dress on a boy.*

re-echoing of themes and sub-themes. When one reflects for a moment, it is perhaps surprising that this is an unscripted performance—there is a spontaneous and fluid interplay between the performers which seems effortless and free of anything one might think of as a "mistake" or a false move. You may say: how could there be? They are just "playing." But this summation gets us nowhere, merely bringing us back to the question of what this playing is. What guides this behaviour and why is it important for artists and art educators to understand it?

I now intend to tease out the guiding, organizing influences behind this fluid play and interplay, the deep structures which form the basis of expressive and representational thought and practice.

One way we might interpret many of the behaviours is that they are imitative of adult behaviour. People might say that of the preparing, cooking, buying and eating of food or "makan" as the children, using the Malay term, call it. Certainly Singaporeans take their food seriously—a local joke is that eating in Singapore is a national sport! The children can see these culinary behaviors from morning to night, at home or in the numerous food centers and restaurants.

However, this explanation, on closer examination turns out to be insufficient. One reason is that though the children use familiar objects, they very often use them in ways for which they were not intended (a pizza cutter and chopsticks for swords, a scarf to cover food or a radio).

Even so, the reader might persist, this use of objects still fits into an imitation of gender role models. The boys' sword-fighting, though with chopsticks, is surely imitated from Gong Fu movies or perhaps the real, live Tai Chi they may see around them in the parks. Likewise, one might argue, Ming Wei's high-heels, scarf-skirt, and hat must surely be an example of gender stereotyping, derived from real life and/or the electronic media. That boys try on female hats, dresses, lipstick, and high-heel shoes, and that girls sometimes play action trajectory games with toy planes, might be cited as examples of children using symbolic play to try to understand what it feels like to be a member of the opposite sex. Many peo-

ple will assume (as Groos, 1901, did) that children's play is a preparation for their later adult roles. Recent writers have added that these roles are fixed by society.

However, it is hard to see how this theory explains the use, by a London 2-year-old, of a cardboard box placed on her back as a representation of a "bad-back," or a Singaporean child's hopping run and arm flapping as a chicken.

It is not just upon these more unusual examples that my argument rests. There are more fundamental reasons why the cultural propaganda and imitation model is inadequate.

Stepping Inside Another's Shoes

Of course, cultural exemplars do play an important part—the children do want to imagine what it is like to be adults and some of their play is generated by those desires. However, imagination's point of origin has to be properly located, its driving force identified. Observers quick to point out gender stereotyping in a 4-year-old's wearing of high-heels stop short at only one level of description. Finding out what it feels like to step inside another's shoes has to be interpreted at many levels simultaneously. Representational play is not dependent on input alone—it does not merely replicate. It constructs our vision of the world.

The models the children use serve as the pivots around which symbolic thought revolves. Like the toys and other objects they use, these exemplars serve as "pivotal objects"—levers with which the child separates words from objects and actions from meaning (Vygotsky, 1966). These objects are attractors for whirlpools of behavior organised—not externally by the cultural models—but internally from the deep structures. What happens repeatedly in the observation is that though children start off with behaviors which seem to emulate adult behaviors, they very soon freeplay with variations which seem to originate from other centers of interest and are no longer attached to the source material. It is as if a new attractor has entered the environment, drawing the pattern of movement from its original center and creating a new, powerful eddy.

This was true of Ming Wei's actions. She produced many, though not all, of the deep structures with which we are concerned.

Straight Linear Routes, Linear Series of Points, and the Beginnings and Ends of Lines

When Ming Wei hobbles along in her high-heeled shoes she is breaking down a linear sequence into rhythmic intervals, into a series of points or displacements in space and time. The high-heeled shoes help sustain and structure this periodicity.

The boys who make the line of fish are also investigating a linear sequence of discreet elements. As we will see, children present and represent these understandings in drawing and painting. Ming Wei demarcates the beginnings and ends of her route by the placing of the radio. When the children carry woks and pans from place to place, they are also coordinating the beginnings and ends of linear routes.

Inside and Outside

She looks inside a little box. Many of the other children did this. They are building up understandings of inside and outside relations. This is a topological concept, which we will later see encoded in their drawings.

Rotation and Going Around

Ming Wei's scarf especially serves as an attractor for the generation of an important group of trajectories and relations.

When she wraps it around her waist, and then around her and her friend together, she is investigating the action, going around. Many children investigated this. We will also encounter it again in their drawings and painting.

The scarf is also used to explore a variety of rotational trajectories through space, when she twirls and spins, flaring and trailing the thin material in space on semi-rotational, and spiralling courses. She is finding out about the object in itself and the actions which she can perform upon it. She is building an understanding of the relationship of functional dependency between the type of action and the characteristics of the movement (Athey, 1990). Additionally, she learns about the expressive potential inherent in her relationship with objects and events.

Earlier Strategies Are Not Abandoned

These understandings are not of course learnt once and forever at any one time, and the child may utilize developmentally earlier modes, transposing them into new situations so that the same action results in different effects. This is true of the vigorous flapping up and down movement she performs with the scarf, which is one of the first expressive actions used by infants from a few months of age—the vertical arc. Such earlier strategies, developed for both their object-testing and expressive potential, are not merely abandoned as children grow older, but are re-grouped to form packages of expressive behaviors. We saw other manifestations of the vertical arc when children beat food in pans and woks. They combined this with rotational movements when they stirred imaginary food. Another early action, the push-pull, was employed by the boy with the wheeled construction toy.

Changes of Position—Changes of State

Children investigate changes of state as well as changes of position. Again, Ming Wei finds the scarf. She crumples the scarf into a ball and then she opens it up and, later on, carefully folds it. She is coordinating two types of transformation: changes caused by movement, and changes caused by altering the form of the object itself.

My observations of London children show them presenting the same behaviors. For example, Hannah, at 1 year 9 months, flails a tape measure out as she spins on the spot. Her rotation, like Ming Wei's with the scarf-skirt, tell her a great deal about centrifugal force and angular momentum. These understandings are also mapped onto the drawing surface in ways I will describe shortly. Then she coils and crumples the tape measure into a ball, before standing and, retaining one end in her hand, allowing the other end to fall to the floor. As well as being a change of state, this is an example of a *descending trajectory*. Additionally, Hannah synchronizes a descending vocalization to the descending tape measure. I will return to this cross-modal association made between different types of action later, for it has implications for how expressive and aesthetic sensibilities are developed (Matthews, 1992).

Ascent and Descent

Other graceful trajectories are formed when the boys play at sword fighting and when the girl and boy practice their flight of hand-held airplanes. In the example of the airplane flights we see clearly how the children represent, within a miniaturized space, the graceful turning and banking of a plane, even suggesting its weightless moment of apogee. The coordination of two trajectories is explored in the game with the shark and the sword-

fish. In both examples too, the children adjust their point of view, or line-of-sight to the moving object, purposely selecting a sample of the visual array. This is an example of what Wartofsky (1980) has termed visual praxis and has implications for the development of "picturing." Such behaviors were observed hundreds of times with London children.

Trajectory and Impact

The boys show an interest in trajectory and moment of impact, or point of arrival (Athey, 1990). When the boy impacts a spoon against the sole of the shoe, he carefully calibrates the velocity, momentum, and amount of force (see Figure 6). These "kinematic aspects" of object manipulation have been little studied (Mounoud & Hauert, 1982), yet they are important to the development of expressive and aesthetic variations in art actions.

Covering and Revealing

The children explored covering and revealing in many ways (see Figures 8 & 9). Ming Wei uses the scarf to cover food; a boy uses the hat to cover the food. They cover each other in the yellow dress. Another example is the dressing and undressing of the doll.

Going Through

Children in both London and Singapore settings were observed to study the dynamic action, *going through*. The boys with the fish and the tunnel are finding out about going through. An interesting example is when Ming Wei tucks the scarf through the handle of the radio from one side to another (see Figure 7).

The Same Deep Structures Are Present In Painting and Drawing

The same deep structures are used in a wide range of contexts but when they are applied to drawing and painting media the feedback is longer lasting and startling. This has the effect of informing and guiding the act of drawing or painting.

Horizontal Arc

An Indian girl, Gaya, age 5 years, paints an entire sheet of paper purple. To do this, she uses one of the earliest structures, horizontal arc.

Vertical Arc

Another early marking action, the vertical arc, was used by many children apparently interested in trajectory and moment of impact. The outcome of the vertical arc are dots or spots. These are produced by Natalie when she stabs the brush gently up and down on the paper. She makes a repeated stabbing of the brush while chanting "mao mao mao" ("cat," in Mandarin) in time to the marking actions (see Figure 10). This synchrony between drawing or painting actions and vocalizations has been observed many times before in Singapore and London settings. The children form a one-to-one correspondence between each marking action and each vocalization. This is the beginning of counting (Gelman & Gallis-

Figure 10. Vertical arc. *A three year old uses this action to make a series of patches or* points in space. *She synchronizes a vocalization to each impact of the brush in a one-to-one correspondence — early counting.*

tel, 1983). There is also an important expressive and aesthetic dimension to this combination of actions which has implications for all later visual representation. The child is discerning that similar characteristics are present in very different expressive actions. The child is realizing that one action can represent, or be equivalent to, another action. An interesting example is when Hannah (the Londoner) combines the descending path of a tape measure with a descending vocalization.

Push Pull and Parallel Vertical

Other children make parallel vertical strokes, a structure derived from the third of the trio of early mark-making actions, the push pull (see Figure 11). As with all the structures, they were often made for their own sake, the children exhibiting "infrastructural motivation," to use Bickerton's (1981) term. Sometimes these marking actions were explored for their representational potential. Eesha, age 3 years, uses pull lines to make the legs of a human figure. These lines are started at a right-angular junction with another line which represents the base of a body. In this case, the child employs a powerful structural principle, the right-angular attachment which I will describe shortly. Right-angular attachment is part of an earlier and larger interest in connectivity.

Figure 11. *A three year old makes a* pull *line — the forerunner of the vertical axis.*

Connectivity

The children from around 2–3 years become interested in the connectivity between elements. They are interested in toys which are linked together like trains, and sometimes they succeed in contriving to "tie" objects together with string. In their drawings at this time they attach regions together by lines. In Singapore, Ein, aged 3 years, links together two closed shapes with a drawn line (see Figure 12). Hannah (the London child) at 2 years 1 month, joins two closed shapes together with a drawn line. Just over a year later, this conceptual concern is shifted to a new level, when she again links such shapes together by lines, saying this is about the "TV," the "plug," and the lead which connects these.

Figure 12. *Ein* connects *two closed shapes.*

Figure 13. *Emergent writing. Amanda uses the principle of* right-angular attachment *to make letter forms. She also* encloses *these shapes with a line.*

Figure 14. *Emergent Chinese writing. Qin Pei uses right-angular attachment to form a Mandarin character for prosperity (bottom left). She also explores points-in-a-series, and places a mark* inside a closed shape.

Figure 15. *Right-angular attachment and collinearity. "A zebra," this three year old says.*

Right-Angular Attachment

Ein also connects lines together when she tries to write a Mandarin character for "prosperity." For this, she employs the right-angular structure. This is an interesting example of emergent Mandarin writing. (In Singapore, most people will speak English, but many Chinese will learn Mandarin at school and in addition, speak a Chinese dialect at home. Malay and Indian children will of course speak their own languages in addition to English.) In Singapore I also observed emergent English writing formed from right-angular attachment and its derivatives. Children's use of a 2D structure guides their search of the environment. They are alert to any new manifestation of the structure, whether these be physical objects, actions, pictorial symbols or arbitrary, conventional signs—as in letter (and number) forms.

Structures Recur Across Different Media

Some writers have stressed the importance of the medium and how this might affect what children produce (Golomb, 1974, 1991, 1993). Sometimes though, these structures are so robust that they persist from medium to medium. A study by Matthews and Jessel (1993) showed that young children transferred horizontal arc, vertical arc, push-pull, and continuous rotation from traditional mark-making materials to the very different medium of electronic paint. Later we will see how they are sometimes carried between 2D and 3D forms.

The right-angular junction shows up more in drawing than with 4D media, but it is discernible in other forms of action: for example, when children sharply change direction in walking games, and when they use walls or other landmarks as cues for abrupt direction change. Such action play is sometimes echoed in the stoppings, startings, and direction changes which occur in children's 2D right-angular structures.

In the Singapore nursery, Amanda, aged 3 years, uses the drawing principle of right-angular attachment to paint the letter forms, T L H. She encircles these with a linear closure (see Figure 13). So strong is her interest in this structure that media change does not essentially disrupt it. When Amanda switches to felt-tip pens she still concentrates on printing letter forms—her name, AMANDA, using the right-angular principle. Again, she encircles the letters with a line.

The predisposition to attach lines at right-angles to each other is sometimes referred to as a "perpendicular bias" but this term is misleading as it suggests an inability on the part of the child to produce

other angles. This early structural principle is perhaps selected by the child because it affords maximum differentiation between lines (Willats, 1985).

Rotational

The rotational movement was also carried between 3D, 4D, and 2D media. Many children alternated it with other marking actions, push pull and vertical arc. Rachel, aged 3 years, makes an anticlockwise rotation with the brush. My Chinese assistant asks her, "What's this?" (The implications of this kind of question by the adult observer will be addressed in the conclusion of this article.) Rachel replies, "underground . . . the man cannot get out." In this case, the act of rotation is being used to sustain a representational scenario involving the act of covering. Rachel may be exerting her own power over an imagined person in an imaginary world, or she may be considering what it might feel like to be the trapped man.

Covering

Rachel is using paint as a substance which facilitates and carries this representation. She may be covering an early mark which represented the man, or she may be sustaining the "man" in her imagination alone. I observed this representation of covering, in both its physical and conceptual forms, in my London studies. For example Joel (2 years 11 months) covered a blob of white paint with a blob of green and said "the white is hiding." He also entombed toy figures in plasticine. This screening of one layer with another is the start of the child's representation of viewpoint. In Joel, we saw this understanding shift to a more conceptual level when he used a linear closed shape to enclose a previous closure, saying that the smaller shape ("baby") was covered by the later closure ("doggy") (Matthews, 1984). In this case, he has not *physically* covered, for he did not have paint to sustain this represented event. Instead, he carried it in his imagination alone. What is investigated at one level, and in one way, is later re-investigated all over again in transformed ways (Athey, 1990).

Action Representation

It should by now be apparent that children use the process of painting to represent not only objects, but events. I have described these elsewhere and termed them *action representation* (Matthews, 1984, 1988, 1990, 1994). They are an important aspect of the beginnings of visual representation. The child uses them to consider the movement of objects from place to place, as well as to sort out the causal relationships in more complex events (Butterworth, 1985).

Brendan, aged 3 years, spends an hour and a half covering a piece of paper in brown paint, carefully visually tracking the rotational and trailing movements of the brush. In response to questioning, he says, first of all, that he is "washing cups," then later, that he is "washing a car." (See Figure 16.) (The next week he does exactly the same—except in orange!)

Painting and drawing episodes, like 4D

Figure 16. Action Representation. *With great intensity Brendan (three years old), visually tracks his brushwork as he describes "washing a car."*

play, are also used to think about the thoughts and feelings of imaginary agents in imaginary worlds. This might be the case when Rachel "covers" and traps an imaginary man "underground." Painting, drawing, and other forms of representation, for children, are not about representing the shape of objects alone, nor even the shape of events. They also represent states of mind (Wolf, Rygh, & Altschuler, 1984). Evaluation of children's art based on a conception defined in terms of representation of objects from a fixed viewpoint is damaging to the modes of representation children are forming.

Closed Shape

I observed the production of the closed shape many times in Singapore and London and have analysed it elsewhere (Matthews, 1984, 1988, 1990, 1994). (See also Arnheim, 1974; Golomb, 1991; and Willats, 1985.) It is a very important structural device with which the child can form many different types of understanding, including inside-outside, and volumes and faces of objects (see Figure 17). Although the closed shape is important, there is a possibility that some researchers have studied this to the exclusion of other, equally important structural devices.

Figure 17. *Closed shape and nucleus. Inside and outside relations.*

Inside and Outside

There were numerous instances of inside and outside relations being encoded onto the drawing surface. First of all, little dots and other nuclei are placed inside the closure. Later, children will enclose more complex configurations inside the closed shape. Rachel's dinosaur egg with baby dinosaur inside, is a good example (see Figures 17 & 18).

Core and Radial

The core and radial is a special case of right-angular attachment. As children develop, they elaborate and extend the structural principles or apply them in new situations. The discovery of the core and radial form is one example (Athey, 1990). Tze Ting paints a core and radial form by attaching each successive line to the closed shape at approximate right angles to it. She alternates the length of each stroke, long-short, long-short, as she goes around the circumference (see Figure 19). According to my observations, this type of core and radial (compass-array) is at a later developmental level than Ling Ling's in which the radials are aligned to the closure according to an overall horizontal and vertical coordinate system (see Figure 20).

This perhaps calls into question Pi-

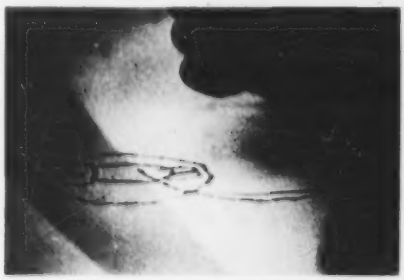

Figure 18. *Further levels of meaning may be associated with closed shape and nucleus. Here is a baby dinosaur in an egg.*

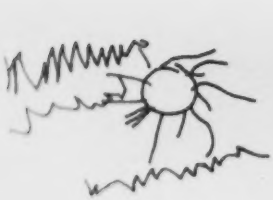

Figure 19. *Tze Ting's* Core and Radial.

Figure 20. *Ling Ling's* Core and Radial.

aget's and Inhelder's (1956) idea that the very young child moves gradually from a perpendicular bias in which local verticals and horizontals are not related to an overall X & Y coordinate system, to a system in which they are so related. These examples seem to reverse this order. It may be, as Bremner (1985) has suggested, that the use of perpendicular attachment is influenced by other forces, some of which emerge on the drawing surface as powerful attractors. However, in the case of Ling Ling—if we are to stick to the Piagetian formula—then it would seem that the forces are internal—for the straight vertical and horizontal baselines (to which the child is supposedly responding) are not there. We cannot cite the horizontal and vertical edges of the paper as local landmarks because this only leads us back to the conclusion that the child does, after all, have a grasp of an overall X & Y coordinate system.

If may be that, in this and other numerous examples, the child combines different sets of cues, perhaps side-to-side with top and bottom. As in language acquisition, some of the elements of language are actually invisible, but nevertheless present, acting as powerful forces (Bickerton, 1990). Are both drawings examples of different types of right-angular attachment?

It may be that the child becomes sensitive to the orientation of the baseline, as in the compass-array type of coordinate system. This sensitivity might allow the child to gauge moment-of-turn, or angular variation, and override top-bottom, and side-to-side cues. It may be the changing referential status to the child of the oblique line which is the issue.

If the predisposition is to attach lines perpendicular to each other, how does the child learn to control moment-of-turn, or angular variation?

Moment of Turn and Obliquity

The child learns a great deal about angular variation or moment-of-turn in playing, in spinning and twirling, as we saw in the observation of Ming Wei. Other children I observed in Singapore and in London played with, and represented, the movement of doors, as these sweep through points of the compass. In the Singapore nursery and kindergarten, children may have gained understanding of the compass array and moment-of-turn when they divided up the pizza. (Interestingly, the Mandarin term for "carve"—ke—also means a "quarter of an hour.") In drawing, various local landmarks or cues might help. In Tze Ting's core and radial drawing, each radial can be considered as attached at a notional right-angle, even though the baseline is curved. This might be the case in Figure 21 where core and radial is carried over to three dimensional media in a work made by a London 6 year old.

In drawing, another useful guide is

taking a line from one point and aiming toward its predicted terminus. Joyce, 3 years old, has drawn a long oblong and she now traces a diagonal from the inside-top-left corner to inside-bottom-right corner (see Figure 22). In this way, the corners have acted as guides for the plotting of an oblique line. Acute angles have been noted by the child from babyhood, when these act as landmarks toward which further drawing is orientated.

Complex Sinusoidal Forms

Drawings which appear to contain the same degree of complexity may not be equal in terms of level of difficulty as tasks. For example, children may be able to copy a triangle before a rectangle—but they cannot always spontaneously produce them in that order. Similarly, although a child might be able to produce complex sinusoidal forms in spontaneous drawing, this does not mean that the child is able to intentionally set out to draw such complex structures, nor may he or she be able to remember how these were achieved. The structures are attained by an interaction between struggle for mastery and free-play. In the first condition, the child's representational intention impels the struggle to start, stop, and change directions at the right time. The child then relaxes from this struggle in spontaneous play with the medium. This in turn generates further variation in structure. The process is two-way. Discoveries about structural variations made in free-play are then fed back into the struggle for mastery (Wolf, 1984). (See Figure 23.)

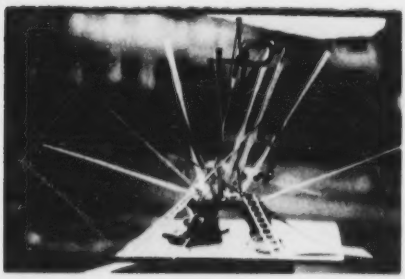

Figure 21. *Deep Structures are often transferred from one medium to another. The Core and Radial in clay and sticks made by a London 6 year old.*

Figure 22. *Mastering the diagonal.*

U Shapes on Baselines

The right-angular attachment is later varied in another way. This is the U shape on baseline, where a line starts off from a baseline at right angles but then curves over and returns to the baseline, forming an inverted U shape. Michelle, aged 3 years, produces some good examples (see Figure 20). Gradually, the child learns to control the length and shape of these and so can use them to specify regions or volumes which have both length and

Figure 23. Sinusoidal line *translated to* travelling zig-zag.

thickness (Willats, 1985). This is a developmental advance from the device in which thickness and length of arm or leg is represented with a single stroke.

Points in Space

In their movements we have seen children investigate linear routes and direction change. We also saw them exploring points in space in jumping games. In drawing, these explorations take two main forms: clustered points and linear series. Mable, 5 years, makes clustered points in blue paint and calls them "blueberries." With the teacher, she counts these. Children often "count" their steps or their brushmarks (Gelman & Gallistel, 1983; Matthews, 1992). Initially, this counting may take the form of emphasizing painting action with a sound in a one-to-one correspondence. This association and synchrony between different sensory channels is significant in itself and has been mentioned above (see Figures 10 & 24).

Children also break down a linear route into a sequence of discreet points, or linear series, as in stepping and hopping. In both London and Singapore nurseries, children also arranged lumps of plasticine in linear series. Sequences of points in space have been observed in drawing actions in London and Singapore. Melody and Joanne (aged 3 years) both make paintings in which short dashes and arches are made in lines. Thus, displacement in space and time is explored in 4D and 2D. In this case, these children also coordinated this structure with another, that of parallel grouping or collinearity—they arrange their lines of dashes in horizontal parallel series. (See Figure 25.)

Another variation of collinearity is concentricity. Tze Ting can also manage to produce concentric arcs (in addition to controlled moments-of-turn). She paints a "rainbow" in concentric arcs and "hair" in concentric arcs over the top of a painted portrait. Both "hair" and "rainbow" are convenient conceptual hangers which support an interest in the structure in itself. This is why we find this structure and content in children's drawings all around the world.

Figure 24. Points-in-space *and* right-angular structure.

Travelling Waves Zigzags and Loops

By translating a push pull movement across the page, children produce the travelling zigzag. This shape clearly fascinates Joyceline (3 years) who produces a whole sheet of these, before finally covering them. Travelling M's are another variation, and if the child can make the line double-back on itself, a travelling loop is formed. (See Figures 19 & 23.)

Cross-Modal Transference

I have given examples above of how children transfer powerful conceptual concerns from one medium to another sometimes requiring the subtraction or addition of one dimension or more. We sometimes see these conceptual concerns developed over time. I have mentioned Melody and Joanne painting patches in linear sequences. Two weeks later, Melody and Joanne extend this concern by drawing linear series of closed shapes (see Figure 26). Immediately after this, they play with necklaces in the dressing-up corner. They encircle these

Figure 25. *Discreet displacements in space-time. Joanne Chong makes* grouped parallels *along a* horizontal axis.

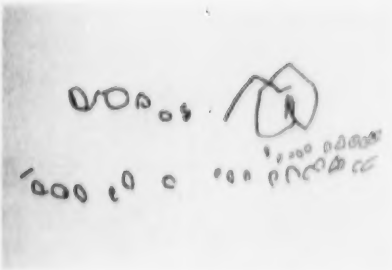

Figure 26. *The child may detect the same deep structures in different contexts. Two weeks later, Joanne plays with a necklace and then draws a horizontal series of closed shapes. She may be representing the necklace as a linear series of closures.*

around their necks. They are interested in the encircling and enclosure. They may be interested in the necklaces as series of linked, bound volumes. They experiment with the necklaces in both their enclosed, encircling form, and in their undone form as strings. The drawings may well be the 2D equivalent of the necklaces in their string form. Many other instances of this type of transference were made and recorded in detail in London. The structure that these recurring behaviours form over time is highly suggestive of a conceptual concern developing through a process of vertical decalogue (Piaget, 1962; Athey, 1990).

Hannah, a London child, also investigates closure and going around, carrying this conceptual concern over different media and over time, as she grows older. From 11 months she has been drawing rotational closed shapes. At 1 year 9 months she is videorecorded spinning on the spot, flailing out a tape measure and synchronising a musical note, rising and falling. Three months later, she is drawing rotational closures and saying triumphantly the word "round." From a variety of rotational experiences she abstracts the invariant characteristic of "roundness." Two months later she draws a closed shape, saying it is "daddy's watch." Then she transfers this two-dimensionally represented watch to 4D play when she draws it on her upper hand, just near the wrist.

At 2 years 6 months she combines radials to the closed-shape, so making a core and radial unit—the combination of what were originally two separate action schemes.

In this and other examples, with each successive re-discovery of a structure, it is transformed by revolutions occurring in cognition, and by transposition from one medium to another (rising and falling lines on paper transferred to rising and falling in music, for example). Note that I am not suggesting an invariant sequence from a supposed "inferior" action-in-the-round to a supposed "superior" 2 dimensional system. It is noteworthy that Hannah's rotation started from drawing and then moved on to dance.

Of course the ability to form cross-modal associations is assisted by designed provision. Melody, Joanne, and Hannah are able to investigate deep structures across 2, 3, and 4D media because this interpretation of children's expressive and representational development allowed for movement between sensory and media domains.

Conclusion

In this paper I have argued that when children use visual media of any kind,

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they employ certain robust forms of behavior. These deep structures are added to and modified as the child grows older. They can be observed in home or school settings, and in other contexts where adult control is a less strong influence.

Children seem to systematically seek out from events, actions, and objects certain forms and relations which remain the same despite transposition from context to context, or from medium to medium. Additionally, deep structures serve as blueprints for further actions. It will be clear that this theory owes a great deal to Piaget's "schemes," Gibson's "invariants," and to Chris Athey's (1990) work. I have shifted the emphasis from predominantly cognitive structures to reveal how a family of actions is clustered to serve the child as a vehicle for expression and representation.

The evidence supports the theory that deep structures are universal in the sense that they define the limits and possibilities of how anyone will use visual media. This means that this process is not tied to the transmission of any particular culture and at a deep level of description, the same forms of action and relations will be present in art all over the world and in the development of children. Others have stressed a supposed incommensurability between different cultures. This article, on the contrary, shows an underlying theme and agenda which is unfolding from infancy. This would also imply a certain optimum social learning environment is necessary if these representational modes are to flourish.

I have argued that children do not merely imitate these forms of action from their elders, or from surrounding images. Nevertheless, how deep structures are allowed to interact with cultural exemplars within a social setting is crucial for development. The learning environment should be planned with reference to children's representational and expressive modes. This entails providing the experiences and conversation which will promote development and help children transfer understandings from one context to another. By helping children gain control of their representational modes one helps them gain control over their lives.

The interaction between the child's development and the interpersonal environment is not predictable stage theory but forms a complex algorithm, in which, between certain parameters laid down by development, patterns of behavior emerge. As in Chaos theory, a few simple rules interact with different attractor systems, causing myriad variations. Not only objects, but also adults' remarks, act as loci around which new patterns of behavior emerge. One example was when 3 year old May Jane, drawing a series of parallel grouped lines, was asked by my assistant what she was drawing. She answered "Zebra." It seemed clear that May Jane had not thought of this before that moment and one may be critical of the observer's intrusion, with its implicit assumptions about representation. However, this exchange prompted May Jane to continue her interest in parallel grouped lines for almost an hour, making "zebra" stripes within a complex sinusoidal form. (See Figure 15.) This is an example of how the watching and speaking adult is a part of the child's development. The child may not have drawn that structure were it not for the adult's question, but it is equally important to grasp that both the child's answer, and her subsequent drawing, were all part of her developmental program of deep structures, in which at that moment, parallel groupings happened to dominate. My own interactions with the children, like those of my assistants, are instances of the loci around which certain, enduring structures oscillate. Further work is needed to understand how these structures interact with input from the interpersonal environment as well as the effects of random occurrences.

Some might say that Singapore is a Westernised setting and that is why I have seen the same behaviors. Actually,

this objection is not accurate. Westerners who live here in Singapore find that its Westernization is illusory. It is a profoundly Chinese society. There were many differences between this and the London setting of my original study. And yet, the children still produced the same deep structures.

In any case, such an objection would make the implicit assumption that Western teachers and caregivers are all eagerly helping children develop these deep structures. If only this were true. With notable exceptions (Athey, 1990; Blenkin & Kelly, 1988, in Britain; Gardner, 1983; Wolf, 1989; Golomb, 1991 and others in U.S.A.) the general tendency is a politically determined curriculum which runs counter to children's developmental agenda. In that sense alone, there is a similarity between Britain's and Singapore's educational system. (There seems to be a growing and sinister similarity between the ways technologically developed governments control education.) One difference between Singapore and Western countries is that Western countries accidentally allow loopholes in which development can occur. Thus, if the West can lay claim to producing more "creative" people, it does so fortuitously: it is not what it intends.

Such loopholes are harder to find in Singapore. The deep structures tend to run in spite of opposition, and exhibit, even in the face of a hostile environment, what Trevarthen (1988), speaking of the beginnings of language acquisition, terms a "temporary autonomy." However, some forms of repressive teaching and child-abuse can damage them. Although more work needs to be done here, it does appear that, although the forms of expression and representation are extremely rich and varied at nursery level in Singapore, these have drastically diminished by the time children are 6 or 7 years of age. By the time Singaporeans are teenagers, very little of their creative, innovative thought, or what Katz (1993) terms "curiosity-driven behavior" remains. It seems to this writer that merely to explain this away in vague terms of "cultural variation" or "difference" is a political deceit.

Where the teaching is rooted in established systems and approaches, where the systems have remained intact and preserved their holistic integrity, the art produced has power and vitality. A good example is the teaching to the very young of Chinese calligraphy, or Shu-fa, the Chinese art of writing (Billeter, 1990). In this case, the teaching of the stroke order of the characters corresponds with the developmental sequence of the child's spontaneous painting and drawing actions (Matthews, 1994a). It might be the case that through its long evolution, the teaching of Chinese writing has attained a near perfect, ergonomic and ecological synchrony with processes of human development.

It is important to note that I am not advocating a situation where artists and teachers stick rigidly to the past. Rather, my point here is that it is essential to understand processes in their entirety, rather than piecemeal. Additionally, for teachers, it is essential to understand how these processes interrelate with processes of human development.

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An Inner Critic in Children's Artists' Bookmaking

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Abstract

Children, who are composers of meaning rather than merely handlers of art materials, proceed by strategies of generative praxis that include fictive play and autobiography and involve judgment that is critically reflective and imagination that is productive. The view of things that leads an art teacher to believe that a child is making meaningful art is one in which a child's judgment is a sign, or even a criterion of thoughtful involvement. When this reflective judgment is manifested, you see that a child is guided by an inner critic of their work, and the claim that "Michael is making art" says it all.

As I interpreted the long self-sustained efforts of children composing artist books, I became most aware of the way in which children's desire to represent their stories merged with drawing and a developing schema in the same way lived experience and metaphor interchange and generate each other. This interchange is the living ground of the inner critic in children's meaningful art.

If we consider the narrative quality of young children's artmaking, and if we describe the integrity of their efforts as a generative praxis of "symbol and presence" (Zurmuehlen, 1992, p. 3), then it looks very much as though critical reflection emerges early in children's artistic development. Does this matter? Or is it just a confusion of what children do with an infinitely complex operation of art production? Well, art educators' stories suggest that when children are taught to find "pictorial substitutes, which effectively communicate, to a child's satisfaction, the intended content" (Kindler, 1993, p. 19), and that when teachers make "the individual life stories of . . . students a basis for their art work" (Zurmuehlen, 1992, p. 3), the result will be the development of children who are "originators, transformers, and reclaimers, rather than merely manipulators of materials" (Zurmuehlen, 1992, p. 3). Christine Thompson (1990) observed, "Many of the questions children pose as they draw have to do with the nature of human experience, others, with the expression of that experience through art" (p. 230). These ideas are either hopelessly romantic or they direct us to something about what goes on in children's artmaking, and what it might mean to respond fully as artist/teachers to children's "reflective judgment," "productive imagination" (Ricouer, 1984), and "inward critic" (Shahn, 1985).

Marilyn Zurmuehlen (1992) suggested that confusion about "the crucial difference between making art and merely doing something with materials" (p. 1) results in a question concerning school curricula: Why is making art vital? I suggest that this question emerges not simply because many educators and the general public are confused about what goes on in young children's artmaking, but primarily because art educators have not always paid attention to the interpretative strategies young children put to work in a sustained "artistic serial." One reason for this neglect comes immediately to mind: Our pre-occupation has been with individual art works or performative acts rather than with a body of work. This is especially true of young children. While I investigated the strategies by which early elementary school children composed artists' books (Thunder-McGuire, 1992), I came to recognize a sensibility or outlook children held toward their efforts which prodded me to look more carefully at their critical reflection.

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David's Map

The following story illustrates the subtle occurrence of reflective judgment and productive imagination in one child's artists' book.

David was in first grade when he created an artists' book that he never titled. He worked on the book pretty much every art period for the whole spring semester, January through June, as did the other children in the school, kindergarten through sixth.

I remember that he did not change the general direction of his idea for his book from the moment he began it; such unchanging focus was characteristic of only a few children. I remember too, that he presented me with what seemed a rather ambiguous idea when I asked him what he was going to make his book about. He told me, "Maps." "Maps?" I said questioningly. "What kind of maps?" He was sure that he liked the subject matter, "maps," but he wasn't sure how he was going to find a way to make a book with them. I remember the slightly bewildered expression he had on his face. "I just like to make maps with monsters," he said.

David spent a few nights each week at his aunt's house. He walked there after school. He mentioned that on most of those nights he sat at the livingroom table and drew.

The spring after David created his book, there was to be an exhibition of children's work in a downtown bank, and I was asked if I would gather work the children had made and bring it for the exhibition. I told the children to each bring a piece of work, whether it was done at home or school. But, it had to be relatively flat and not really heavy.

The following Monday, David stopped by the art room. From a folder he extracted what amounted to, essentially, the pages of his artists' book, now scotch taped together and folded into one long map. I had not seen this version of his book, the taped and folded one.

Setting the drawing down and unfolding it, I asked David why he decided to put it together this way. He explained, "I thought there should be harder things as you go. Like a game when the levels get harder. When school got out I was at my aunt's and taped the drawings together and drew them so they fit together." Page one is taped to page two, page two to page three, and so on through 23 pages.

The organizers of the show would never put up this 23 page drawing. Too big, I knew. I told David this right off because I could see how much he wanted to show it. No problem. He untaped the first three pages and that is what was hung in the exhibition.

The drawings that make up his map are elaborately detailed; looking at one is like reading a novel. I could easily picture David sitting at home going over and over his fantastic drawn sequence, each time imagining new ways to climb through, cross over, and do whatever was required to complete passage through the labyrinth of treacherous waterways, steep cliffs, sharp knives, horrendous creatures, and, in general, a nearly impassable barrage of terror. Perhaps it was this quality of his maps which brought David to sit down with a recorder and narrate his account of its trails. I gave him the recorder just as class began. At the end of class, as the other children lined up and headed on back to their homeroom, I told David he would have to stop, for now anyway. So, he quickly composed a one sentence ending, handed me the recorder and then caught up with the class. More than likely he could have unfolded his story infinitely. That would be in keeping with his book's creation, I thought.

The following is an excerpt from David's account of a successful passage:

> First, there are gate doors that you have to open up somehow. If you try to get back out you won't be able to because it's locked. So, you have to go down stairs. But, if you trip you'll fall down into

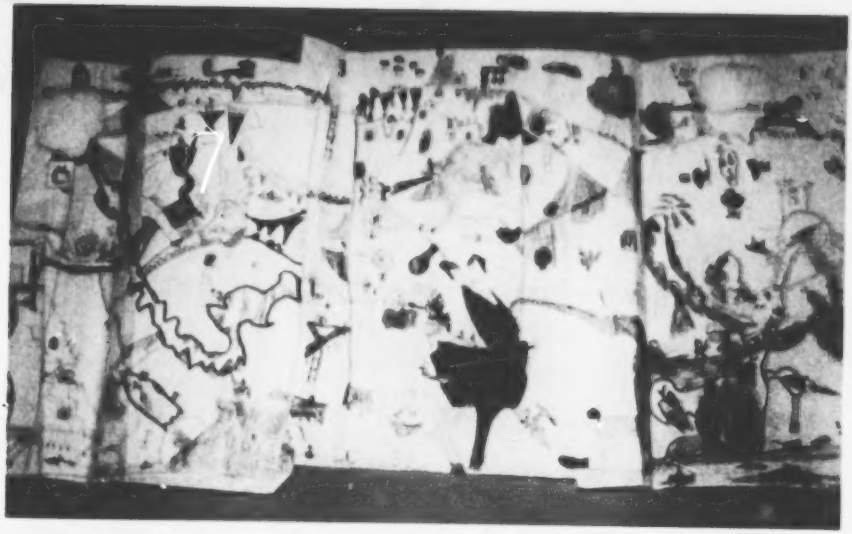

Figure 1. *David's Map*

this pit—there are spikes in the pit—and then you'll be stabbed. And, if you do make it down the stairs, there is lava. So you have to jump on this rope and swing to this nest. But the nest is spiky, so be careful. And, one of the eggs might hatch and the birds will eat you up. So you have to get out of the nest very quick and jump off onto the stairs and go down. Except, be careful, because there is a spike on one of the steps. And you might trip and fall down and die. Then, jump down and go right here. Well, then go down the stairs, down into this part right here, to the secret door. The secret door leads down into there. You fall down to here. And, then, if you don't get killed right there because of the spikes in this room, you'll fall in this big pot. And, if you hang onto the pot, by the edge, there is a whip man who will whip you and make you fly in. But if you make it you can climb back up. But . . . .

Langer suggests that "The first thing we do with images is to envisage a story" (1951, p. 128). David is only one minute into the action of his drawing. I am impressed by David's play inside his drawing, "where the conversion from unreflective to reflective thought comes about" (Beittel, 1973, p. 56). He identifies minute details so that he can act them out in his head. It is a form of play having to do with drawing and the praxis of storytelling. It is as if David is determined to create drawings that erupt into spontaneous stories so that he can accomplish not simply a drawing but fictive drama. In one way or another, children critically engage their artwork: some do so in this very simple way.

It is easy to say, in regard to David's artwork, what Vivian Paley (1991) observed, "Take away the play and story telling . . . the subject is meager and unimaginative" (p. 97). But it becomes clear that there are more things going on in the play of David's drawing than are usually considered in discussing children's artmaking. Notably, there is evidence of "productive imagination" which conjoins the composition of meaning with visual representation. Ricoeur (1984) compared characteristics of the configurational act to two Kantian conceptions: reflective judgment and productive imagination. "We ought not to hesitate," he

wrote, "In comparing the production of the configurational act to the work of productive imagination" (1984, p. 68). The labor of productive imagination orders events according to their "causal connections" so that a universal meaning emerges. This involves a judgment that "reflects upon the work of thinking at work" (1984, p. 66) in a composition: judgment which places intuitive understandings under the rule of a concept.

Does it matter that, when David reads his story over, he also refigures the decisions and meaning he has made in his artwork? This is the question Paul Ricouer contributes to art education at the level of the structure of interpretation. It is a question I found myself asking as I observed children work on artists' books. The generative praxis of artmaking which Beittel and Zurmuehlen explore and elaborate upon merits further investigation. One of the tasks of art educators is to identify the forms in which generative praxis manifests itself. An art teacher may come to recognize the occurrence of "reflective judgment/productive imagination" (Ricouer, 1987) within children's artmaking by knowing better those common practices of interpretation children employ. What I have come to know as I observe children compose "artists' serials" is that Ricouer's philosophical scheme of productive imagination and reflective judgment complement Beittel's conception of the three essential conditions of art (idiosyncratic meaning, artistic causality, intentional symbolization) and provide a very precise understanding of the "inward critic" of which Ben Shahn (1985) wrote.

My attention turns to three stories of children putting together artists' books.

"Garfield's Adventures"

Ignoring my direct admonition not to make a book about Garfield the Cat, Michael, a first grader, kept his original idea and brought in to class, the next period, the cover to his book, titled "Garfield's Adventures." One of the unfortunate side effects of the great popularity of this character, I felt in the moment I saw the cover, was that Michael, a confident and enthusiastic drawer, had settled on material that would ultimately prove to be genuinely uninvolving. At the same time Mike made it clear he liked to draw Garfield. He insisted that only with Garfield could he draw the adventure of his own cat. It was hard for me to believe that it was his cat that he was going to draw.

In the early pages of his book Michael may have made some attempts to draw his cat, a cat which I knew through anecdote to be the center of his attention at home. But, he drew Garfield.

Michael did indeed have an adventure story in mind, one involving time travel. And in the course of unraveling a fictive story, Garfield became transformed into a very idiosyncratic character. I recognized this as early as the fourth page of his book. This brought me to a primary insight: The development of Michael's book prodded him to match the idiosyncrasies of the story he played through with equally personal images. Michael explained this quite well: He was trying to do an adventure story about his cat, and the whole point of Garfield the cartoon was not the same as his story. It actually may have been this simple. The central concept that underpinned his book—time travel—resulted in the drawing of a particular image that exerted a considerable representative presence in Michael's work. On every page of his drawings of a cat-like creature's time travel adventures, a series of vibrating, repetitive lines appeared. The cat of his drawings was, he said, either "shot into the future" or "back into the past," and the lines show that happening. More than once he explained to me the long backward or forward stretch of time these lines represented.

Michael rendered an order of time which arose in his story making. His subject

matter included time travel, and time thus had to be portrayed some way. The tight vibrating strands of line, whose path ran through page after page containing images of cats and space ships, exerted a direction that brought into order all of the images in Michael's book. Michael produced a visual facsimile of the envelopment of time in which characters intertwine with circumstances and a network of actions are wrapped. His drawings, composed in this way, left an impression on me. I felt that Michael had displayed the tracks of thinking that wove together the images on his pages.

Perhaps the fact that Michael arrived at an acceptable way of drawing time travel put him in the position to concentrate in more idiosyncratic ways on his project. His books ends not with Garfield, but with a drawing of those tight vibrating lines of motion.

Ben Shahn (1987), in his book *The Shape of Content*, spent a number of pages relating the judging and intuitive mixing of ideas which guided him in the creation of a particular painting. He spoke of the thinking operation at work in the "biography" of this painting as a "communicative affair between the painter and his painting, a conversation back and forth, the painting telling the painter even as it receives its shape and form" (1985, p. 49). Ben Shahn's comment presents a nice way of understanding the poetic function of productive imagination as Ricoeur (1984) described it. As Shahn wrote, "There is considerable content which extends through one's work, appearing, disappearing, changing, growing; there is the shaping power of rejection which I have discussed, and the constant activity of revising one's ideas" (p. 48). I believe Ben Shahn, after this reflection, might have agreed with Ricoeur's idea of the work of thinking: "To follow a story is to move forward in the midst of contingencies and *peripeteia* under the guidance of an expectation that finds its fulfillment in the 'conclusion' of the story"

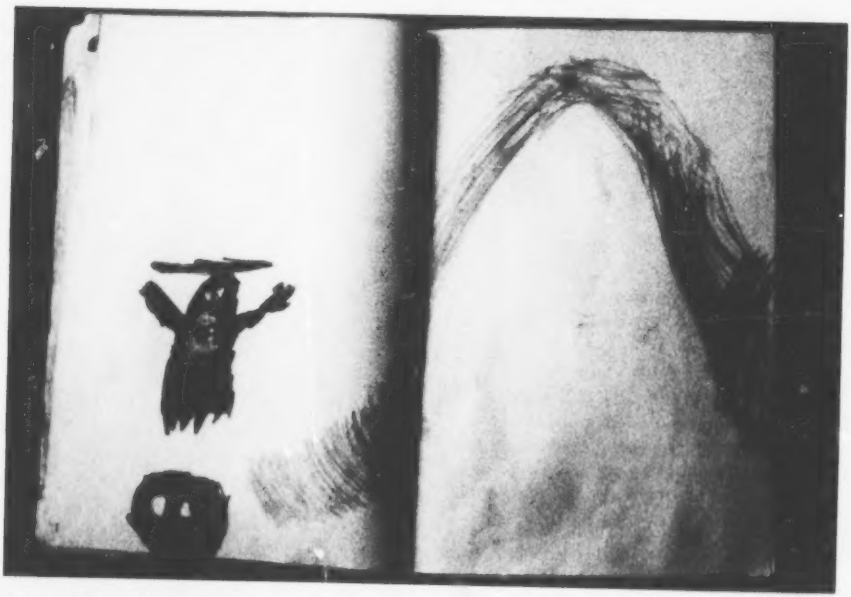

Figure 2. *Garfield's Adventures*

(Ricoeur, 1984, p. 66). In reflective judgment, the "inward critic," as Shahn put it, "is ever at hand, perpetually advising and casting doubt" (1985, p. 49).

The maker of an artists' book must ask "What am I experiencing when I turn these pages" (Higgins, 1987, p. 11). While watching and listening to the children make their books I saw that each was guided by an inner critic. The children reflected upon the work of thinking at work, when they decided, in view of what they had done so far, how to continue.

Bridget's Costume Party: Fictive Play

"I remember when that Target opened," Bridget said, as she explained how her ideas for her artists' book began:

> There was this commercial and in it there was this lady who was going to be a bag of popcorn for Halloween. And I like popcorn. And then Brooke had not yet finished the costume party for our play, *The Rough Life*. You see, Brooke and Molly and I thought that the people in *The Rough Life*, after they get divorced because of the food fight—after the court scene which was my part of the play—would meet a year later in Disney World and then the couple would re-marry and live happily ever after. So, one time I just drew all afternoon in my bedroom and made people for the costume party.

Apparently, these moments of storytelling and drawing that afternoon were exhilarating ones that left Bridget with a promising script in progress. She continued:

> I like making this costume party. It's more exciting than making plain people. Making just an ordinary person is not as exciting, for instance, as making someone a pig. It's sort of like your own world. It's more exciting to make your own world.

I had the sense that Bridget understood that her efforts at creating the costume party involved concentrating on the twists people evidence in life. At the end of the table, in the livingroom of the mansion which Bridget had made from paper, sits a person dressed up like a cloud. What could have been on Bridget's mind when she made this character, I wondered.

"Who is the person dressed as a cloud?"

"A poet."

"Why did you do the poet as a cloud?"

"Because poets are always dreaming and thinking."

The exhilaration of gaining insight into people prods Bridget into fiction. It appears as though her desire to work fictively emerges out of her interest in the vastly different ways people perform as actors in a large drama.

Part of the story of Bridget's book—and of many of these books by children that revolved around imaginary or fictitious characters—can be seen in something Bridget did from the start. Nearly every other page of Bridget's book displayed, at one time or another, the vital activity in her head for creating it. The great moments of trial and error in creating characters—a mermaid, Dracula, the Statue of Liberty, a pot, her family, a rock band, Dorothy and Toto, a monster, Miss America—were evident everywhere in Bridget's book. Bridget had left the practice drawings in her book of what eventually became pop-out characters. Was this the remains of an ill-begot book? No. Bridget had crossed off images, or as she said, "people," as she either made better versions of them or decided not to use them. There was function to these pages. Clumped into her artists' book, wherever, were practice drawings done on looseleaf and typing paper. These were drawings of various costumed characters, most of whom Bridget later painted and drew onto "better" paper. Bridget changed and blocked out ideas for her artists' book, in her book, along the way. She never intended to keep these drawings. Actually she was trying out cos-

tumes for the party scene. Editing and list-making were essential components.

The integrating function of doing drawings and making characters allowed Bridget to bring about, beyond representational rendering, a mediation between her artmaking and the meaning of her character's stories. The inner criticism that situated her as a reader involved her in recovering ways of knowing and being in the world. Through reflective judgment, the characters Bridget created circled back around to her life, and she came to be something by composing her artists' book. Zurmuehlen, in her essay, "How Art Gives Meaning to Experience" (1981), suggests that the ontological significance of a work of art stems from its intersection with life. Perhaps this is why Ben Shahn recognized that, above all, the biography of a painting constitutes "the wholeness of thinking and feeling within an individual; [that] it is partly his childhood or even his adult fears and pleasures, and [that] it is very greatly his thinking" (1985, p. 51).

Autobiographical Praxis

Katie, tall for six years, with blue eyes, bangs and straight blonde hair, had a fondness for her pets—Mandy, a golden retriever, and Dusty, a short-haired grey cat. She wanted to "make something about them," as she put it. Inquiring whether it would be acceptable to make such a book, Katie said she had thought about it and that it seemed to her that because Mandy and Dusty were her favorite subjects she was sure she would make a good artists' book if she could construct it about them. I was surprised that a first grader so reasonably considered whether what she enjoyed could be made into a book.

Clearly, from the start, Katie conceived her book, *The Little Puppy and Little Cat*, as a lasting document of her affection for her pets. I interpreted this as her intention when I saw the first page of her book. The Tuesday after she began, Katie came to school with a photograph of her dog. "Stop and let everyone see what you've been working on in your book," I said, when I noticed that Katie had glued the picture down and had written something about it. A quiet, yet confident child, Katie kept her book behind her back until the other children were so excited that she brought it out. "This is a picture of my old dog, Missy. We had her since I was born. She died a week after my fourth birthday." Katie turned the page; there was a picture of a different dog. I had not seen this photograph. "This is me and Mandy when she's a puppy. She's got my sister Kim's shoe." It had not occurred to me that the white fluffy dog in the first photo she had shown me earlier was not Mandy. Katie had wanted to remember Missy in her book, she told me later. It seems that when Katie looked through her scrapbook for a photograph of Mandy as a puppy to put into her artists' book, she remembered that Missy died the week before Mandy was given to her. So, she decided to open the book with a memorial picture of Missy.

Looking through Katie's book reveals drawings of Mandy being let out of her cage, of Dusty preying on birds, of a framed picture of Mandy on the mantel, of Katie in her sister's room with Dusty in the chair listening to records. Viewing her book as I did, a couple of pages each day for a semester, also revealed that each and every entry built upon the preceding ones.

Katie had made, that weekend, a large painting of Dusty and Mandy seated on their haunches, side-by-side. She had tried, unsuccessfully, to get them to assume that pose for a photograph. She painted the pose instead. That morning when I asked her about doing the painting, she laughed as she remembered the difficulty she and her mother experienced in trying to get Dusty and Mandy to sit together facing the camera.

I brought this painting to her class's attention and asked Katie to tell them the

story she had told me about why she painted Mandy and Dusty. She did so, and then it occurred to me to have her talk about her book to the class. It was the second week in April and Katie no longer had anything else to include in this book. She had completed it the week before. Katie already had begun another artists' book. Katie's class and I sat and listened as she told about each page of her completed book. The whole class seemed absorbed in her brief descriptions of the action in each drawing.

Katie read the first two pages, "This is my old dog but she died on my fourth birthday," and, "This is my new puppy and me." Perhaps she read, rather than described, because the photos had captions. However, she did not read, "This is a dog. His name is Fifi." She told the class the drawing was of Mandy. Then she described the remaining drawings in her book. Katie turned a page, looked to see what was on the next, and then held the book open, out in front of the children, and told them what they were seeing:

> This is Dusty, my cat. Mandy is more fun to play with. Dogs are just more fun to play with. Dusty doesn't really like to play.
>
> This is a picture of me at the picnic table at my house. See, I have this sticker of Missy on my window. And, this is the sticker.
>
> I go into my sister's room and listen to my records on her stereo. And, this is Dusty on the chair.
>
> This is my birthday when I just got Dusty. She's mine because I got her for my birthday. She had kittens.
>
> There is Mandy with puppies. But, she really didn't have puppies. I thought it would be cute because someday I hope she does have puppies.
>
> This is a picture of Dusty and me looking at pictures of Dusty and Mandy in my house.
>
> This a picture of a tree with Mandy on one side and Dusty on another, playing hide and go seek.
>
> This is Mandy and me. Mandy jumps on people a lot and she's jumping up on me.
>
> This is a picture of a picture of Dusty and Mandy. We have lots of pictures in the house. And I thought I would make pictures of them. But, we really only have little pictures of Dusty and Mandy.
>
> This is Dusty walking through trees. She hears birds in them and she's going to go up in the tree and get them.
>
> This is me and my big bear and Dusty in bed.
>
> There is this chair in my sister's room and it has this blanket and my cat likes to sleep in it.
>
> I just threw a ball to Mandy. And, I bounce it and it goes up and then its coming down and Mandy is going to catch it.
>
> Here's a picture of Dusty with cotton on his tail. I put cotton on his tail because his tail is very fuzzy.
>
> This is a picture of Mandy when she's walking. We go inside and leave her outside. She never runs away; she likes our house a lot. We go inside to have dinner and let her run around for exercise. And then when we get done eating supper we call her back in. We call her to come here and she comes up. She walks.
>
> And this is me holding Dusty and Dusty is licking me and Mandy is trying to lick me.
>
> Dusty bites at her tail in our chair in our house, sometimes. She brings her tail up and fights with it—she bites it.
>
> Dusty sits under cars all [illegible]. She likes to go out into the str[illegible] there is a parked car and she g[illegible]der it. She lays under it.
>
> Here is me on the couch with Dusty coming up.
>
> Here there is a balloon going up in the air. I have this thing right here. When Dusty was a little kitten we took some string and tied it up and then she tried to get it.
>
> This is Dusty in a tree and Mandy trying to get her.
>
> This is Dusty climbing up the tree to try to get the birds in the nest. We had a nest in the tree once. Then the babies were in the nest and Dusty climbed up and ate them all. I didn't like that. Mandy is coming to get Dusty because she doesn't want her to kill more birds. But

it's hard to see because I didn't paint it very good.

Here is Dusty's food dish and her water. And here is Mandy and her food and water.

Sometimes I get on my knees like this and I take Dusty's paws like that and it's like she's dancing.

Here is the tree and Dusty is trying to get that bird right there. Because we have this bird feeder in the winter time.

And here she has a bird.

Often children tell these kinds of stories in just such a clear and easy way. Still, I was struck by the manner in which autobiography emerged so unselfconsciously in the children's art. Eventually, for Katie, the decision to make a book about Mandy and Dusty attained a self-sustaining momentum. Simply to continue her book was its own generative force because Katie was caught up with all the stories she remembered. Katie's single-minded attention to memories of being with Mandy and Dusty is an inquiry that produces in book form an integrity of her life's story, which in turn is underpinned by a particular autobiographical dialectic between drawing and telling.

Figure 3. *The Little Puppy and Little Cat*

Simply, Katie is very adept at recovering the stories that impel and guide her book. From Katie's account of the content of her book's pages it is clear that she accepts that her book, for the sake of wholeness, demands telling some stories. Katie enjoins the reciprocal connections between the images she draws and the stories of Mandy and Dusty. Clearly, the exhilaration of telling stories with drawings prods her to recover more stories. Beittel (1979) maintained that this interchange within the scheme of an artist's serial is "the spread and fusion of the qualitative immediate present" (p. 33). Katie's desire to represent her stories merges drawing and a developed schema in the same way lived experience and metaphor interchange and generate each other.

"Interpretation takes place within composition itself," Gadamer (1987, p. 72) suggested. The interchange between making and telling is a providence art teachers are concerned with, precisely because it is the living ground of further meaningful interpretation, as the stories of these children's artists' bookmaking evidence.

Children's "ontological and aesthetic concerns provide a place for dialogue to begin" (Thompson, 1990, p. 230). This pedagogical reality ultimately bears on the structure of interpretation, since it is through interpretation that critiquing, naming, and making combine to be a generative "praxis," as Zurmuehlen (1990) suggested in her book, *Studio Art: Praxis, Symbol, Presence*. Ricoeur lends a particular philosophical grounding to inquiry into generative praxis since his focus is the element of inner criticism—reading—that emerges within the transition of unreflective to reflective thought (Beittel, 1973) from doing to making (Zurmuehlen, 1990).

For Ricouer, reading is the crucial synthetic act, through which reflective judg-

ment and productive imagination grasp together events and experience into a whole, thereby appropriating meaning. Reading mediates lived experiences and artwork that constitute a serial. Reading is most recognizable as having a particular affinity with Beittel's conception of the three essential conditions of art when we consider how, with the element of time, idiosyncratic meaning, intentional symbolization and artistic causality are generatively interdependent and so actually the path of critical engagement or reading. The artists' reflective judgment would necessarily include developing "a growing artistic self-identity" (Beittel, 1973, p. 69).

Composing artists' books involved these children in being readers in the sense that following the decision making of their books was reflected in the configurational act of their bookmaking. These children made artists' books whose pages emerged out of a multitude of possibilities by a critical judgment that managed already discriminatively chosen central ideas. For instance, David judged what to do on his map according to the continuity that emerged so far. In this way his reflective judgment brought idiosyncratic ideas for completing his map under a general rule or principle. The principle was the continuity of ideas present in his book: escaping a labyrinth of terror. Further, David, Michael, Bridget, and Katie judged aspects of their books according to forms of books familiar to them and past artwork, so that their acts of productive imagination schematized understandings they held with ones generated as they worked. The pages of their books, in combination with intended meanings and knowledge of what a book is, guided them. Productive imagination is characterized by such a practice since fundamentally it has a synthetic function. This is to say that the children put together photographs, drawings, writing, and materials, like yarn and sticks or glitter, which followed emergent strands of inquiry and meaning. Pages had to relate. The immanent direction driving an artist's serial emerges through "understanding and appreciating a history of change [in a body of artwork]. . . . while conditioned, contingent, and determined from one point of view, from the point of view of the artist's consciousness the artistic serial is open, proactive, super static" (Beittel, 1973, p. 67). The children not only judged what needed to be done, but in acts of productive imagination, brought together a syntheses of interpretations. They read the instructions for further pages as they worked. In this way the children plotted their books.

Plot, Ricoeur (1984) said, is mediating in three ways. First, there is the mediation of individual events into a complete work. In relation to the children's practices, this mediation would be figuring, for instance, where they might insert a group of drawings about going on a trip, done on loose paper while riding in the car. To create their books was to understand why the successive drawings led to others which, far from being foreseeable when they began, became congruent with the meanings brought together in their artists' book.

Second, plot mediates discordant elements and unforeseen outcomes. I was reminded of when Bridget decided to place the script for her play *The Rough Life* into her book. She had no problem inserting the play, for it arose out of some drawings about her future; these already were in her book. But, the play changed her thinking about what she wished to do next in her book. After *The Rough Life* was performed, Bridget began cutting out various characters she liked to draw and placing them in a pop-out fashion in her book. She then decided to go back and portray some of the images of herself, which she had drawn at the beginning, in a similar fashion. In this way her formation of her book mediated "discordant" drawings as she created a "concordant" whole.

Third, temporal characteristics are mediated. On one level the children had to go back and reorder or leave out previous

work done in their books to establish for a viewer or reader a particular meaning. Katie mediated a chronology of events in her book by returning to the beginning of *The Little Puppy and Little Cat* and inserting a page that establishes for readers the idea that her first dog was what started, not so much her thinking about the content of a possible book, but her relationship with animals, which is what a reader might want to know if they are to understand why this book and not another. Temporal mediation is the combining of chronological order and the episodic dimension of time. The thinking that brings about this paradox of time plays a very significant part in presenting the meaning of a personal story, as was the case with Michael's book, as well as the reality of the history of a book's composition, which Bridget revealed to me and herself. The children's work of thinking, which put together lived experience (either through autobiography or fictive play), symbolic meaning and time, finds its fulfillment in the complete artists' book. And the meaning of the book as a whole provides the point of view from which the artwork can be understood. Each of the mediating aspects of "plot" is basically an integrating of parts into a whole and is in turn the thinking which is actually an artist's book's interpretive meaning.

Beittel (1984) maintained that "art is not a thing but a whole comprised of moments" (p. 56). That there are critical moments in the composition of an artistic serial is of significant consequence for a philosophical understanding of children's interpretative strategies. To be sure, the conception that a child is the reader of meaning, in the fullest sense of reflection, is an immanent truth and how we may speak of, as Beittel (1973) suggested, creating a self as we create art. When this reflective judgment is manifested (even when a child works around a teacher's attempts to exclude popular culture images from the activity), you see that a child is guided by an inner critic of their work, and the claim that "Michael is making art" says it all.

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The Case for Developmentally Appropriate Lessons: The Child and Art

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Introduction

Recently I watched a young art teacher give a lively and well-organized lesson to kindergartners, a presentation on the meaning of *behind* and *in front,* and an explanation of simple shapes. She had prepared an engaging example, an orange and black striped tiger cat slinking *behind* a clump of tangled plants *in front* of a rather lush copse of rain forest vegetation and had tacked this to an easel to help the children understand the concepts and construction techniques. The cat's triangular ears poked up alertly, its ringed tail curled with energy, and its green eyes glowed as it moved stealthily across the center of the paper. During the previous art period the children had completed their own small construction paper images of cats, most of them striped, many of them orange, matching the teacher's example. During this second period they were to begin work on their vegetation. The children awkwardly set about the task, clumsily angling their bright colored plastic scissors this way and that to cut green strips (like the example) into two separate sections of weeds. The teacher helped them glue the rough *behind* sections to their papers at what she felt was an appropriate distance from the bottom. Then everything fell apart.

Many children were having a dreadful time with their scissors, slashing in frustration at stubborn green contact paper, as the teacher tried to encourage the use of less predictable colors. Other children were determined not to cover up their kitty. No amount of explanation could tempt them into exploring the issue of *behind.* Even when the teacher's guiding hand pulled the foreground grass over their cat, they were able to pry large sections of it off before the glue set but after the teacher left their table. Two children dropped their work altogether to tell whoever would listen of the death of their kitties, one in the jaws of a dog and one on the road in front of the house. Several other children felt moved to provide heartfelt descriptions of the deaths of other pets, theirs and friends', as the paper kitties languished forgotten on the floor or amid the scraps at work spaces.

Suddenly, on the far side of the room, a little girl stood up and announced, "Kitty fall down" to no one in particular as she looked in dismay at her cat *in front* of and *behind* rows of plants. She repeated "Kitty fall down" louder, and louder still. No one responded to her growing worry. She left her seat to deliver her concern directly to the teacher, "Kitty fall down . . . kitty fall down." The teacher, busy with a roomful of multicolored shreds, surging children, and an art lesson that threatened to spin out of control, overlooked the question (perhaps she did not hear or perhaps did not understand) and told the child gently to return to her seat: It was time to clean up. The child, continuing to repeat her question more quietly now while gazing at her cat, fretted as she slid into her small wooden chair.

I began to muse, "kitty fall down . . . kitty fall down." It is likely there was no plane visualized by this six-year-old child, only two strips of land—the *behind* and *in front,* all else abyss. Kitty, forced into the empty space between two islands of actual substance, would indeed fall down, whirling away through empty space, dropping forever, a baby's earliest in-

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stinctual fear made manifest for poor kitty. *That* might explain the other children's surreptitious peeling away of the *in front* when the teacher turned her back, their careful draggings of kitties forward, out from behind the brush, before the glue set. I began to wonder if some of the children's worries might hinge on whether kitty was actually still there: whether kitty continued to exist at all behind the screen of *in front* the teacher was so eager for the children to apply. I began to wonder whether, in fact, the lesson made sense in relationship to art, children's developmental abilities, and what art meant for the children themselves.

The relationship of young children, their developing skills, and art is an interesting one. Teachers and caretakers, eager to increase children's physical abilities and expand their culturally defined intellectual sophistication, spend hours drilling, planning, testing, and shunting children from one activity to the next, convinced that exposure overcomes the inequities of biological and physiological development and accelerates the process of maturation itself. At the same time, many art professionals and advocates struggle to validate art as a subject worthy of pursuit by making it the carrier of other content, disguising art's true role, value, and means of functioning. It is here difficulties begin, for when the basic physical nature of the development process and the actual questions of how art means are overlooked, confusion between creativity, understanding, compliance, and imitation emerge. Child, culture, and learning must be considered as discreet but interlocking pieces of the same puzzle, and individual development as the framework into which these pieces fit.

This article is one of advocacy of the young child, her right to her own course of development, and to her own idiosyncratic artmaking free from adult interference. Earlier inquiries by many people including Kellogg (1970), Lowenfeld (1982), Ashton-Warner (1963), and Henry (1975) point out the importance of such advocacy. Current research in curricular development by the faculty of Reggio Emilia in Italy, in the bio-cultural aspects of human development and behavior by Dissanayake (1992), and in neurobiology by Marr (1982), among others, strengthens and supports those earlier views. Continuing exploration of these issues is essential, for the gap remains wide between theory and practice, particularly in the public schools. This article refocuses discussion on these still important aspects of early childhood and points out again the necessity for considering age-appropriate artmaking and its role in child development.

The Child and Learning

Lowenfeld and Brittain (1982) suggest that four to seven years of age is the time of first representation and symbolization, when color is used for its own sake, and space is conceived as what surrounds the individual child—here a chair, there a ball, here a table—with no relationship between objects except the child who sees and symbolizes. Kellogg (1970) points out, "Age five is often a time of crisis in child art. The child's spontaneous art is seldom appreciated by kindergarten teachers who are unfamiliar with preschool work. They give the child formulas to copy" (p. 117). She continues, "Schools in every land make an effort to have the child copy the art adults prefer as typical of the local culture" (p. 123). These are familiar but, nonetheless, significant points, for whatever a particular culture may prescribe or a particular group of adults prefer, culturally prescribed, adult preferred art is not necessarily compatible with a child's developmental level or personal interests, nor with the essential purposes and methods of art itself.

In the region of Emilia Romagna of Northern Italy, early childhood schools have arisen that place children in the

center of the learning process. Learning grows from children's investigations and explorations rather than being seen as something that comes about due to adults' pouring information into an otherwise empty, passive child mind (Edwards, Gandini, & Forman, 1993). The *atelier*, or studio workshop, serves as the central laboratory for children to examine the "rich combinations and creative possibilities among their different (symbolic) languages" (Malaguzzi, 1993, p. 68). The link between basic intellectual capacity and creativity is not seen in opposition but rather as complementary. Loris Malaguzzi, the founder of these schools, in regard to child-centered teaching, remarks,

> I would like to emphasize children's own participation: They are autonomously capable of making meaning from their daily experiences through mental acts involving planning, coordination of ideas, and abstraction. Remember, meanings are never static, univocal, or final; they are always generative of other meanings. The central act of adults, therefore, is to activate, especially indirectly, the meaning-making competencies of children as the basis of all learning. (1993, p. 75)

This child-centered approach is entirely unlike the kitty project where an adult controlled outcome, materials, subject matter, and operations, thereby constraining children's own investigations and disregarding their developing abilities.

Child-centered learning, appropriate to the child's own abilities and intellectual questions, has served as the central focus of these schools since their inception just after World War II. They have come to be seen as an important alternative model to the American Corporate/Industrial model school, where specific identical products are to be produced at specific intervals by both children and teachers (Edwards et al., 1993).

Observation and note taking cultivate careful sensitivity to children's intellectual direction and serves teachers as a means of developing and focusing naturally occurring interest groups within each class. Each child's own development and personal inquiries drives this process.

Children's development, like art itself, can be understood to grow out of the individual child artist and his/her place in life and culture. As Schutz points out, "Knowledge of another's mind is possible only through the intermediary of events occurring on or produced by another's body" (1970, p. 164). The growing interest in child observation as a source of teaching/learning repeats this individually centered position. Observation of children's behavior, as a means to enhance both teacher development and classroom planning (Edwards et al., 1993; VanDeWeghe, 1992), should help to focus art lessons on each child artist and the way in which they create and explore important personal concerns. This child-based, child-driven approach to lesson content and teaching is similar to Ashton-Warner's (1963) child-centered Organic Teaching. It is the mainstay of age-old, observational, informal, family-based learning, in which children's needs to be appropriately socialized serve as the basis for teaching skills as diverse as food-getting techniques, religious ritual, group history, social roles, and the other difficult, culturally specific chores of daily life.

Much of the learning that originates within a family is unspoken. Adult input is limited to answering a child's questions or to occasional and informal observation of the need for correction or change of a child's performance. Such teaching is similar to the way Maya adults respond with both pleasure and suggestions to a young girl's early attempts at weaving traditional fabrics or at making tortillas for the family meal (Kellman, 1991). A similar method of teaching and learning can also be found in the Reggio Emilia approach to emergent curriculum. An emergent curriculum is "a method of work in which the teachers lay out general educational objectives, but do not

formulate the specific goals for each project or activity in advance" (Rinaldi, 1993, p. 101).

Zurmuehlen (1974) also suggests that child-centered lessons focus attention on art as an activity generated by individual children's creative, narrative, and developmental needs.

> Did the idea originate with the child or the teacher? If the source was the child, did the ideas evolve from his life experience or previous art work? Who made most of the decisions about the art work? The person making the decisions is the person doing the learning. . . . Was the uniqueness of each child's art expression encouraged? (1974, p. 33)

Zurmuehlen considers the child artist the appropriate source for art content, motivation, and teaching approach. Observation of classroom behavior would provide the key to answering questions regarding artmaking and its creator's needs and abilities.

Art and Culture

Dissanayake (1988, 1992), in her recent work on the purpose and origin of art, espouses an ethological approach to understanding art's value and function. She favors a view including a biological genesis for art production and therefore understanding artmaking behavior as a part of human genetic inheritance. Her position, though it is at odds with the anthropological insistence on culture as the source for all but the most basic and instinctive behaviors, provides a new perspective on child art. Adapting Arnheim's belief that "art, far from being a luxury, is a biologically essential tool" (1992, p. 82), Dissanyake suggests that children (as well as adults) find "emotional satisfaction and calm in the 'controlled' behavior of shaping time and space, of putting these into comprehensible forms" (1992, p. 83) which have their basis in neurophysiology.

Young children make art based on their lives and beings. It is from their physical enjoyment of doing and their level of development that forms and images actually grow in a natural and predictable manner. Alland (1983) reflects on the artistic activity and development of forms in children from six cultures. He concludes that, "Though children's drawings may conform unconsciously in many ways to cultural conventions, what children do basically is play with form and let the process take them where it will. This is, of course, the ideal situation for self-direction and discovery that can lead to the mastery of form" (1983, p. 1). Clearly Alland understands that at the most basic level of initial definition children are engaged in their own self-motivated, process-driven learning and development.

Adult Ideas/Children's Arts

In 1953, Jules Henry described the unarticulated purpose of education at that time. Not much has altered since then. Though Henry's special interest in this case is the fostering of the American personality (examined here in the school setting), there is much to be gleaned in regard to art learning as well. He describes a music period in a grade school class as they perform the songs of Ireland. He observes:

> The teacher plays on the piano, while the children sing. While some children sing, a number of them hunt through the index, find a song belonging to one of Ireland's neighbors, and raise their hands in order that they may be called on to name the next song. The singing is of that pitchless quality always heard in elementary classrooms. The teacher sometimes sings through a song first, in her off-key, weakly husky voice.
>
> The usual reason for having this kind of song period is that the children are broadened, while they learn something about music and singing.
>
> It is true that the children learn some-

> thing about singing, but what they learn is to sing like anyone else, in the standard, elementary school pitchlessness of the English-speaking world. . . . Thus one of the first things a child with a good ear learns in elementary school is to be musically stupid; he learns to doubt or to scorn his innate musical capacities. (Henry, 1975, p. 271–272)

The same kind of tacit learning certainly takes place in the visual arts. Adult-generated lessons that use art as a method of teaching the abstractions of physics, geography, math, social studies, and other subjects, as a means of fulfilling culturally dictated values and as an avenue for providing adults a sense of satisfaction as both teachers and art observers rather than encouraging children's creative engagement with art itself teach children that producing adult preferred images is the purpose of artmaking and that their own particular interests and concerns must be cast aside to garner approval.

Zurmuehlen, writing in detail about an "art lesson" that she discovered in a popular teacher's magazine—this one involving the construction of sun faces—reflects on the visual arts equivalent of the singing lesson described by Henry:

> The unreflective busyness with materials substitutes a superficial appearance of intentional symbolization for the real condition. For children who may be subjected to such a situation it is virtually impossible to make art in these circumstances; they merely undergo an externally directed procedure that, estranged from idiosyncratic meaning and artistic causality, produces a kind of pseudo-art. (1990, p. 64)

In regard to schooling as a whole, Henry (1975) concludes that there are two specific lessons a child must learn. The first is that lessons are not what they seem, but that it is necessary to "forget this and act as if they were" (p. 272). The second is to put the teacher's and other students' criteria in place of one's own. These insights lead us back to our beginning, to copy-cat images that are not art, to purposes that are not stated (teaching concepts of location and prepositions), and to children whose needs and abilities are not considered as the reasonable foundation for their own development and art production.

Developmentally Appropriate Art

Abigail, four, is an excellent contrast to the children in the kitty-producing kindergarten.

> Abigail tears off pieces of tape and covers the edge of the desk facing her with two inch bits. Then, carefully, she makes four spreading dots at the top of a sheet of paper and places two vertical, parallel lines beneath them. "These are eyes," she says, pointing to the larger dots, "and these are legs," indicating the lines. Marlene (her mother) comes into the room. "Tears?" she asks of the lines. "Yes," answers Abigail. "Legs," she repeats. She carefully cuts out an oval shape around the marks and then takes a fresh piece of paper to begin again. After completing four, plus a smaller, "baby" she applies masses of tape to join them all together in a line, with the "mother" (who is the only pink figure amongst the otherwise yellow family, perhaps to indicate gender or special status) "holding the baby," she finishes fringing the bottoms with her scissors. I inquire about this and she tells me, "It's to make them shiny" (special, perhaps? shimmery like light catching fringe?). (Kellman, 1986, Unpublished paper)

In this brief moment Abigail announces herself to the world. Her family helps to form the subject of her art—her new brother Casey, her older sister Amber, her parents, herself. She manipulates materials and tools (tape, scissors, paper, markers) and solves conceptual problems (how to draw people, how to show their special separate natures). It is also likely that she indicates their importance

and value to her by the use of bright, cheerful colors and fringing, as well as makes them real within the context of her abilities and cultural conventions, as paperdolls, not simple drawings. She follows her own interests, tells her own story, and is clear enough about her personal narrative to make certain that legs are not confused with tears, even by her mother. She is following her own path into the complex pattern of individual yet interwoven human lives: curious, certain, secure, involved, showing what is of value for her in the world of form, line, color, media and content, how it is to be right here, right now, a child making art.

Abigail's experience is light years away from kitty, in a world of meaning and ideas rooted in the child, her abilities, and her world. Dissanayake (1992) writes of the biologically based, and hence, inborn, need for art that is intrinsic to our humanity itself. She explains:

> Artlike activities exist in all societies and in all walks of life. What is far more timely and relevant than its intrinsic sanctity or freedom should be the awareness that art, as the universal predilection to make important things special, deserves support and cultivation in the schools . . . not just by artists in an artworld. (1992, p. 225)

Dissanayake continues, "Departments of education should, in my view, be exploring ways to enable people to make their individual and collective lives more significant through art—making things special—rather than acquiring, consuming, interpreting, disputing, destroying, or cynically repudiating them, which seems to be the entrenched if ultimately humanly unsatisfying responses to our postmodern world" (1992, p. 225). Abigail can certainly be seen here making important things special with all her personal artistic resources called into play and her need to "make special" focused on her elaborate family portrait. Just as this view illuminates Abigail's art, it calls into question the kitty in the foliage as a means of producing anything, since it reflects neither individual nor collective approaches to either aesthetic or content concerns.

Bruner's examination of the propensity of the mind to create stories as a way to impose meaning on life (1986) provides a further means of understanding what Abigail experienced that the kindergartners could not. Narrative, in its widest sense, can be seen to underlie artmaking, for there is always a story to tell of time past, of art itself, and its creation. A narrative approach to existence can be seen in Abigail's visual description of her family in cheerful pink and yellow, "shiny" with fringe, looped with tape. Hers is a story of the focus and substance of her world—her family, their importance and centrality in her life, and the sense of pleasure and security they afford her.

Abigail herself can be seen through all these various means of examining art and its creation (as can other children in the midst of their own work)—as a developing child in a particular culture, as a spinner of personal narratives that provide life's meaning, as a physical being in the world making things to celebrate the warmth and shelter of home, as a solver of perceptual and aesthetic problems. She is self-motivated and creative, a child making art that reflects the world that is grounded in her needs, abilities, and personal concerns.

In order to learn, a child must be developmentally ready to do so. Art teaching must remain firmly focused on this central fact. Interest in adult-provided content, in highly complex art issues, or in the achievement of a particular aesthetic or conceptual outcome must not be allowed to distract from this point. Respect for young children, their level of development, and their personal expressive needs must serve as grounding for artmaking activities and must be the concern of all art educators.

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Children Understanding Diversity in Their Community: "Are We Home Yet?"

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Abstract

This essay focuses on how teachers can guide young children to become aware of residential buildings in their hometowns in order to help them explore, inquire, and understand the cultural diversity in the global community. As children explore the diverse forms of shelter they and their neighbors call home, they begin to recognize the similarities they share with other people. Teachers can encourage children to use art and social play as a means of exploration and inquiry to clarify their own cultural and aesthetic heritage.

Early Enclosures

Cradles are among the earliest individual enclosures we experience as infants. Plastic cribs in a hospital nursery or perhaps a wicker bassinet in a room of our own, these enclosed spaces were designed to make us feel safe, comfortable, and at home.

Artist Naomi Schedl (in Richardson, 1979) explored these ideas about space by making woven cradles. She was influenced by cradles discovered when she studied ancient and contemporary cultures. Her weavings suggested that we reconsider our early experiences with space in order to understand the nature of enclosures and their cultural implications.

As children, we probably investigated these concepts quite spontaneously and eagerly through our playful constructions. When children guide their own play, they often transform blankets, cardboard boxes, and kitchen tables into tents, forts, and hideouts (Fenton, 1991). Children build, repair, and rearrange their constructions whether they consist of blocks, fabric, or cardboard with a spirit of bringing forth new enclosures within familiar environments like their backyards, basements, or garages.

These spontaneous experiences from early childhood can serve as a basis for exploring the concept of home and community with young children. A multicultural perspective offers a way toward understanding places we call home by studying the spaces and structures that other people call home. Perhaps through an exploration of the diversity of home, shelter, and dwelling, teachers can guide children to an awareness of many forms of home and community.

These early enclosures and spontaneous experiences of young children are universal pursuits that we all share, yet how we fulfill these endeavors becomes a unique process of assembling forms and meanings. This process often includes seeking physical structures, such as buildings for protection, but it also invites us to endow these spaces and places with personal meanings. This relationship between universal pursuits and unique manifestations sets up possibilities for us to recognize how other people interpret the concept of home. By comparing how we as individuals construct a concept of home for ourselves with how other people proceed with this common endeavor, we expand our knowledge of our concept to include its potential diversity.

In this article, I will review some possibilities, connections, and approaches teachers can use to guide young children to an understanding of diversity in their experience within their community. The concept of home has meaning for all human beings. Teachers can draw upon ideas young children have already constructed about their own homes. Then

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teachers can introduce children to ways that other people, especially other children, interpret the concept of home.

Children's Spontaneous Play with Space

Young children actively engage in learning through art and play (Szekeley, 1988). Within their play scenarios, many children spontaneously build tents, snow forts, and hideouts. They transform caves, ravines, closets, and spaces under tables into places that enclose their play activity. During social play that involves building, children construct architectural forms through art processes such as assemblage and sculpture. Concurrent with their building activity, children may add dialogue and give narrative form to their play. These self-guided integrations happen easily in children's lives. Careful observers (Szekeley, 1988) of children's activities suspect that children's self-guided social play may provide grounding for integrated art and literature-based curricula in schools. Perhaps teachers and parents can extend these forms in order to explore concepts of community, home, and diversity. By acknowledging children's spontaneous drawing, large scale building, and social play activities—their role-playing, creative dramatics, dialogue, and sequencing events—teachers can set up situations in which children can realize their membership in a diverse and global community of builders, makers, writers, storytellers, and artists.

In addition to the personal meaning that is already present in young children's experience, two other processes substantially occur in their daily lives. Young children spontaneously engage in play and artistic processes. Teachers can build upon these processes in order to guide children's awareness and understanding of diversity that connects, yet moves beyond, their personal interpretation of the concept of home.

Children climb over, into, and around structures they build. Lowenfeld and Brittain (1987) explained that these physical actions are sensory experiences that serve as ways of learning about spatial concepts. Perhaps the physical activity of building tents, hideouts, and snowforts is a three-dimensional form of scribbling that is an early manifestation of artistic processes.

Children usually provide evidence of their understandings of spatial concepts in drawings which document their experience in three-dimensional space by presenting it on a two-dimensional plane, frequently a sheet of paper. We see this reciprocity between three-dimensional and two-dimensional space in many children's schemata, but most clearly when they spontaneously draw architectural structures such as houses or other buildings.

Alberty and Cogan (1984) noticed that houses and related objects were a persistent theme in their collection of children's art from the Prospect School. Kellogg (1970) acknowledged buildings as an important subject in young children's earliest pictorial representations.

Significant events and places in children's lives often serve as a focus for their artistic endeavors. When Jamie and Alana moved from New York to Colorado with their family, the experience offered them events to document with drawings. Jamie who was seven drew her family's first home in Colorado, and a travel trailer, in which the family lived for a few months until construction of their new house was completed. After Jamie and her family moved into their new house, she made more drawings, but now she focused on characteristics of the new construction. Alana, her four-year-old sister, joined her and made drawings of their new place to live.

These spontaneous drawings illustrate the observations of Alberty and Cogan (1984), as well as Kellogg (1970). Jamie and Alana also documented another theme: the importance of home in their lives. Jamie's drawings showed that her

understanding of home expanded to accommodate the varied structures in which her family lived during this period of relocation and construction.

Making Ourselves at Home: The "Fold of the Familiar"

Norris (1990) discussed the importance of describing home as a place. As a teacher of English as a second language, she became aware of her students' need to become at home in their new location, Canada. Although they wrote about their birth places with what she called images of paradise, the students remained very aware of the difficulties that provoked their departure from their homeland. At the same time, they were intent on becoming at home in Canada, determined to find what Norris described as being themselves with others. Norris watched her students accomplish this transition, constructing a sense of home by establishing a "fold of the familiar" (p. 242). She described this fold as a place where we can be ourselves without explanation. It is where we are important in someone else's world.

Young children seem to be involved with making themselves at home by using constructive and social play in new locations such as daycare centers and relatives' homes. Ronnie was at his grandmother's house when he built what he called a tent in the guest room. He suspended blankets and sheets over his re-arrangement of the furniture in the room. He seemed thoroughly and confidently engaged in the building process when I left the room. When I returned, I looked around the guest room, noticed the tent, but found no evidence of Ronnie. I searched the house and returned to the tent and looked inside. Ronnie was stretched out, snoring gently, asleep in his tent. I was surprised to find him in this way because five-year-old children are usually reluctant to nap in the afternoon.

As I watched Ronnie and other children build these enclosures and play in them for awhile, I realized that the builders dealt with these spaces in ways that indicated that these were not merely places to play (Fenton, 1991). Gaston Bachelard (1969) described such endeavors when he discussed the importance of enclosed space as a place that is safe enough for its builder to dream, imagine, and dwell: to call a home. Perhaps Ronnie felt safe enough to fall asleep in the tent because he had made his own enclosed space where he was allowed to be himself without explanation. Ronnie pursued his tentmaking activity in order to claim a new place—to make himself at home at his grandmother's house. He used his personal experience of play and building tents at his house as familiar instances to make this link. By building a tent in his grandmother's house, he became important in her world as well as mine.

Connecting: Bringing Things from Home

Winning (1990) discussed the importance of home as a place or physical environment. She described her uneasiness about moving from Australia to Canada to teach. As she unpacked her boxes of familiar objects she wondered why she brought things from her home in Australia to set around her in a new place. Did they help her construct the "fold of the familiar"?

Many young children carry favorite toys, blankets, and things full of idiosyncratic meaning with them even on brief trips when physical structures that constitute home are left behind. Before four-year-old Nicholas went camping with his family, he prepared for the trip by collecting items he considered necessary for survival and packed them in a cardboard box. The box contained scraps of wood and cardboard, a toothbrush, a comb, and a small plastic pumpkin. Nicholas

explained that the wood and cardboard were kindling for the campfire. The comb and toothbrush did not need an explanation, but, to an uninformed observer, the purpose of the plastic pumpkin was not clear. Eventually he revealed its importance when he used it to haul water from the well to the campsite.

By bringing things from home, Nicholas and Winning attempted to establish connections between their temporary location and the home they left behind. In order to build this link, they assembled survival kits of carefully selected objects to use and display in their new dwelling.

Recognizing and Making Landmarks

Home is more than a personal dwelling. It is also defined by its geographical context. Living in a city, town, suburb, rural or urban area adds another layer of meaning to the concept of home. For example, Spokane, Washington, has a park located near a river that winds through the city. A huge replica of a red Radio Flyer wagon is installed in this park and is dedicated to the children of Spokane. It is an important interactive sculpture, a piece of playground equipment that children climb on, over, and around. Sculptures, court houses, shopping malls, and bridges can provide clues to where children live and pointers toward what children call home. These structures are not homes or dwellings in themselves but serve as landmarks that help children use personal meaning in order to designate a community as their home.

I remember family vacations when we frequently traveled along turnpikes and interstates that to me as a child seemed endless. On the return segment of our trips my younger brothers and sister often asked my parents, "Are we home yet?" I recall being eager to arrive home, too, but I remember watching for landmarks that told me the distance from our hometown exit. Barns, bridges, viaducts, rivers, and electric power towers were structures that seemed consistent and reliable reminders of where I was and how far I had to go to get home.

Guiding Children's Play with Space: Expanding Their Concept of Home

Lev Vygotsky (1962) explained that we learn through sharing our experiences as we construct understandings of them. Through this social activity we begin to understand and learn about the complexity of concepts, the ways our experiences match or do not match the experiences of others. A house may be a home for me, but others may find their homes in apartments, condominiums, or on a warm slab of concrete on a city street.

In some nomadic or migratory cultures home is a portable structure. Temporary dwellings may be installed and dismantled as weather, employment, or food sources change (Gablik, 1989). The diversity of dwellings that exist within North American cities, towns, and rural areas suggests that our culture may not be as homogeneous as we might assume. Not all people live in houses. Apartments may be homes for families who are unable to afford the cost of a mortgage payment, or who prefer smaller dwellings with greater proximity to neighbors. Children may experience living in many places or know children who move frequently. Some children may live with one parent and visit another in a place where they have a room that extends their concept of home. For some children, a room of their own may be a complicated series of locations, structures, and arrangements.

All cultures have interpretations of what constitutes home. Our many understandings of the concept of home allow us to discover how similar we are to people who may seem unfamiliar and geographically distant and also to understand differences in the ways people live, even within the same community or neighbor-

hood. In the many manifestations of what we know as home, we find a tribute to our diversity.

Teachers are involved in children's play with space and building activity through what Vygotsky called the "zone of proximal development," the distance between what children can do unassisted and what they can do with an adult's guidance. Teachers can assess what children know about the concept of home, by listening to their accounts of tentmaking or by observing their drawings of where they live. Then teachers can introduce children to other forms of home in order to clarify how their existing frame of reference matches or varies from the diversity of what home means to others.

The lives of children, their autobiographical sources, provide a focus for helping young children become aware of their understandings of what home means to them. This process of becoming aware and clarifying their personal experience with the concept of home serves as a foundation upon which young children construct a shared understanding of variations and complications of the concept.

It is important to teach young children beyond their own personal knowledge toward an understanding of concepts that accommodate complexity. According to McCracken (1993), when children move beyond what they already know, they can reject stereotypical images, resist preconceptions and clarify misrepresentations. They can make decisions and choices that are informed, fair, and based on their strong sense of empathy. When autobiographical sources form the foundation of understanding diversity each child realizes their value and importance in their community.

How do teachers help children construct their understanding of home beyond their own personal experience? How do children recognize their place in the community? Where are these places? What are their forms? How do these forms bring people together? Curriculum development in early childhood education addresses these questions by maintaining a strong emphasis on helping children understand cultural diversity (Derman-Sparks, 1989). Endorsements of a culturally representative perspective parallel the curriculum guidelines recommended by the National Association for the Education of Young Children (1991). These guidelines for developmentally appropriate practice suggest that children learn in ways that include becoming aware, exploring possibilities, inquiring about connections, and ultimately utilizing what they have learned through these processes. These guidelines evolved in the early childhood literature but they provide ways for teachers to think about how all people actively learn. These approaches to learning and teaching serve as ways for teachers to help children build and clarify their understandings of the diversity in the communities in which they live as they find ways to recognize and celebrate their own cultural origins.

Awareness

Awareness emerges from experience that includes what children already know as well as new experiences they acquire within the learning cycle. Teachers can encourage children to articulate and document their personal experiences through storytelling, drawing and building activities that call upon what they already know about spatial relationships and home. In order to make these situations unfold, teachers need to provide an environment in which children can recognize the importance and value of their own spatial relationships. Teachers can set up situations in which children can see and hear about new forms of home that can inform their personal experience with the concept by extending their understanding of possibilities and potential of what home can be for others.

In order to bring young children to an awareness of how diverse the concept of home can be, we can begin with visual

examples found in their local area. Teachers may use photographs, color slides, or prints of apartment buildings, mobile homes, as well as a variety of houses (Stuhr, Petrovich-Mwaniki, & Wasson, 1992). Children's local frame of reference can be expanded to include homes in areas with cultures and climates different from those the children know. It is helpful if these photographic images include children who are the same age as the children being addressed. Provide examples that are contemporary in order to avoid unfortunate stereotypes such as suggesting that Native American tribes of the high plains still live in tepees (Billman, 1992). Older children who have a clear understanding of time and know the difference between past and present are better able to understand the ways in which ancient people built their houses. We must be clear and point out to children that contemporary descendants of these ancient people do not live in such structures daily and may only inhabit them for ceremonial rites.

Exploration

Exploration focuses on how children deal with their personal experience once they recognize it. Exploring is when children endow their experience with personal meaning. As children acknowledge that their experience has possibilities and potential, they refrain from taking it for granted. Teachers need to arrange activities such as block play and tentbuilding and ask questions during these activities that encourage children to sort and order or give structure to their experience. By noting the characteristics of their experience of home, children construct their understanding of spatial relationships that mean home to them. During the exploratory phase of the learning cycle, children notice specific or unique features in their experience that constitutes what home means to them.

In order to help children to connect their personal meaning with the images and discussions reviewed during the awareness process, teachers can guide children to participate in an exploratory activity. Children can manipulate classroom space, time, and their personal meaning of home. For instance, the building of tents in the classroom provides children with an experience that blends the classroom space and furniture with sheets and blankets that the children bring from home. An exploratory building experience can help them accommodate the new information about homes.

Inquiry

When children move through the inquiry process, they are making connections between their personal experience and the experience of others. Children can make these connections because they clarified, categorized, and gave structure to what they knew already during the awareness and exploratory processes. Teachers need to set up situations in which children can articulate characteristics they discovered in their own experiences and seek them in the experiences of others. Eventually children will make connections with similarities and realize that they share common characteristics about home with others and then they can understand each other. As they continue to compare, they will uncover differences or specific interpretations of the concept of home that vary from their personal experience. Although we share a concept of home and some of the characteristics, we do not interpret the concept in identical ways, so investigating the distinctions are as important as the similarities. The distinctions make us interesting to each other and the similarities make us able to communicate and understand each other.

When children engage in the inquiry process they begin to clarify their personal meaning of home and compare it to the meanings others hold. As they

recognize similarities and notice distinctions they begin to move beyond their own meaning and extend their understanding of the concept of home to include variations as suggested by images they saw and the peer testimony they heard.

Utilization

When children make use of their understanding, they are utilizing or giving form to their knowledge. As children become aware of their own experience of home, shelter, and dwelling, they can explore its characteristics and give it meaning. When children inquire about other people's homes they set up comparisons between their existing frame of reference and variations they observe. Then they are ready to give form to their revised understanding of the concept of home.

Since children spontaneously play and make things, such as tents, teachers can use these familiar processes as ways to encourage children to reconstruct their understanding of the concept of home. Social play and art processes such as drawing, sculpture, and collage with variety of materials, some of which should be selected by the children, offer them a means to personally express their ideas about what home is and the forms it can take—their possibilities and potentials.

Walking tours of the children's immediate neighborhoods that surround their school or daycare center can focus on buildings they can draw in a visual journal or sketchbook. The teachers can conduct walking tours in mobile home parks, apartment complexes and nursing homes. These journals serve as documentation to record how children's understanding of the concept changed and expanded to include variations they observed.

Drawing other people's homes needs to be accompanied by building experiences that encourage children to manipulate three-dimensional space. Walker (1977) recalled that some of the most vivid memories of his childhood were of building houses. He remembered that he spent a lot of time searching for materials and repairing the fragile structures. As an adult, he became an architect, someone who draws plans for other people's houses but does not build the houses he draws. He admitted that sometimes he yearns to follow through with the construction of these houses.

Walker's predicament illustrates the need for teachers to bring children to an awareness of the concept of home, but also to provide situations and materials for children to explore, to inquire about, and especially utilize their knowledge about the similarities and distinctions among the spaces we inhabit, the places we call home. After seeing photographs, films, and local architecture, after reading and listening to stories about homes, young children must have enough time, adequate space, and appropriate materials to build enclosures and to play in those structures.

Making Connections: Local Possibilities

Eileen Tenney (1991), a teacher and artist, used her home as a focus to help children understand the diversity of their hometown of Bozeman, Montana. Tenney realized that she was attempting to introduce new ideas about culture, gender, and ethnic heritage to children who lived in a community that was apparently culturally homogeneous. She followed the guidance of Jana Noel (1993) who reminded teachers to approach students with the understanding of their lack of experience in the world of diversity.

The house Eileen called home was built by Samuel Lewis in 1881. Lewis was a barber and musician, and the son of Haitian parents. He built several houses in Bozeman, all included in the school district's local architecture curriculum guide.

These houses provided Eileen with lo-

cal connections that helped her teach Bozeman children about artist Edmonia Lewis, Samuel's half sister. Edmonia's mother was a member of the Chippewa tribe. Since Edmonia's heritage was Haitian and Chippewa, Eileen explored both cultures with the children. The children studied Edmonia's childhood with the Chippewa people as well as how her Haitian and Chippewa heritage influenced her sculpture.

In order to bring the house that Samuel built to life, Eileen guided her students through a multimedia exploration of the residence, combining experiences with music, drawing, storytelling, and sculpture with clay. She used storytelling strategies to introduce the children to art historical connections that focused on Edmonia. She encouraged them to search for a location within the house that they liked and considered a comfortable place to make their sculpture. Eileen's home became a vital link across time and heritage illuminating ways that inquiry into the cultural diversity of our own communities can serve as a means of clarification, connection, and celebration of the ways our diversity enriches our lives.

Home in the Zone

Vygotsky's concept of the zone of proximal development shows how teachers can help young children to become aware of the architectural structures and make connections with their community. Together children and adults may explore the concepts of dwelling and architecture as a way to understand cultures that are different from their own. As they look at the diverse forms of shelter that members of their community call home, young children may begin to recognize the similarities they share as people. By using their spontaneous building, drawing, and social play as a foundation, teachers can introduce children to human diversity as well as celebrate their own cultural and aesthetic heritage.

In the midst of the learning cycle process, we realize that we made ourselves at home in new places where we are greeted with acceptance and understanding. Home becomes more than a physical location or structure as we endow those spaces with meaning. Home is the meaning we carry with us. As Rosen (1992) explained, "Home is what you take with you when you leave" (unpaged).

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Development of a Sophisticated Early Childhood Art Program: Collaboration and Discovery

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Abstract

A classroom teacher and an art specialist discuss their collaborative development of an art program for a small private school which integrated making, looking at, and talking about art. In addition to art making projects, the program included museum visits and the development of individual art collections of reproductions. The authors explain the need for discussing concepts with the children before, during, and after an experience, and for making use of fortuitous events. They not only present their theories and practice, but their suggestions for improvement.

Introduction

This article presents the story of a collaboration between the two of us, an art specialist and a classroom teacher, the discoveries we made, and the sophisticated early childhood art program we developed. In order to give readers a more immediate sense of our two voices and perspectives, and to give each of us a chance to talk directly to readers, we will sometimes alternate between voices. The division between our voices, however, is not equal. In the interests of unity and coherence and because she, as classroom teacher, was always present, the majority of the narration is in Elizabeth's words.

Beginnings

Elizabeth: Toward the middle of my first year as head teacher of a private elementary school also in its first year of operation, both the parents and I expressed dissatisfaction with the level of art instruction offered in the curriculum. I was surprised to realize that, despite my graduate studies in aesthetic education and my view that art was not a frill, I had been too busy establishing a general instructional setting and schedule to think about a formal art program. Despite the small number of children (four first graders, eight second graders, and two third graders), there was much to do. We had begun with no textbooks and no set curriculum but with high expectations set both by parents and teachers that our program be challenging and project-based. I discussed my concerns with Sandy Bales, an art specialist with whom I had worked before. Happily, Sandy was not only ready to give advice but offered to develop a program with me which would involve her coming to the school for one afternoon each week.

Sandy: Shortly before Elizabeth requested advice, I had decided I should find a place to teach outside the university laboratory art school. Teaching outside the university setting seemed to offer a way of keeping in touch with the demands placed on elementary grade classroom teachers, demands soon to be placed on the college students I was teaching.

Sandy and Elizabeth: We hope that a description of our program and an elaboration of our reflections will suggest new ideas for stimulating art programs for the early grades, and will help readers to better understand how the art specialist and the classroom teacher can help each other and to see how more bridges can be built between theory and practice (Donmoyer, 1989).

Perhaps the details of this article will extend our readers' understanding in other ways we cannot foresee. Such a

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possibility may exist if, as Robert Stake (1993) points out, our "narrative provides opportunity for vicarious experience" (p. 240). If we are able to offer descriptions and assertions that our readers are able to assimilate into memory, they can thus "extend their memories of happenings" (p. 240). We hope this description and analysis of our experiences will add to and enrich our readers' encounters in the world of art and education and aid them in their own construction of knowledge.

Elizabeth: Before our formal collaboration began in January, art had appeared informally in the curriculum, but only in children's productions. We had not touched explicitly on art history, art criticism, or aesthetics, nor had we given any formal technique demonstrations. Our art center included a large table, two easels, shelves stocked with various papers, drawing tools, scissors, and glue, and tubs filled with odds and ends. Children could mix their own tempera paints or use watercolors. Each day began with an *options* period in which children engaged in self-selected activities at various centers for which they had signed up the day before. The art center was always a popular choice. Generally children at this center made their own creations.

Drawing pervaded the school's curriculum, from making illustrations and covers for books written during writing workshop, to projects in social studies and science. Painting occurred during morning *options* and also when children worked on backdrops for plays they had written or created murals for assorted academic projects.

In realizing the weakness of my art program despite my training, I was initially struck with the gap between my theory and practice. Only after having the opportunity to sit down with an art specialist and discuss and plan a deliberate program, did I find my curriculum beginning to reflect my theories. In fact, the formal program described in the remainder of this article is very much a product of our complementary theories.

My training in aesthetic education had convinced me to broaden my conceptions of what education in the arts in the early grades involved. Instead of thinking solely about studio activities and products children would bring home, I agreed with advocates of DBAE (Discipline Based Art Education) and likeminded theorists (Smith, 1987; Day & Greer, 1987; Dobbs, 1988) that we also needed to involve children in art history, aesthetics, and art criticism. As both an advocate for encouraging children to think critically and an admiring reader of Michael Parsons's (1987) *How We Understand Art*, I wanted to help children achieve a reflective stance in which they could step back and ask thoughtful questions about artworks, artists, and audiences. I also espoused those educational theories that see children as active learners rather than empty vessels passively waiting to be filled by authoritative teachers (Page, 1990). Furthermore, I believe in creating a curriculum around a unified idea, like much of current research on school reform that emphasizes the need for an overall principle, a constant purpose (Katz & Chard, 1993).

Sandy shared complementary ideas. Her clear commitment to being responsive to the particular context and the individual needs of student, teacher, and parent, enabled her to alter the curriculum to the particular needs of the situation. We agreed on certain pedagogical goals: We both wanted the child to be an active learner and the teacher to be a facilitator. We wanted to encourage collaboration, discussion, and reflection, and have each child experience a sense of satisfaction.

Sandy's belief in constructing knowledge with the student parallels my own ideas about active learners and critical thinkers. Both of us believe in using higher order questioning strategies which, for example, require children to compare and contrast and draw inferences. And we believe it is important to free children from depending on affirmation from others (Holt, 1989); therefore an essential

goal was to structure situations that developed the children's confidence in self-education (Heath, 1994).

Overview of the Formal Program

Our formal art program, which lasted from January through May, included a weekly ninety minute session and related activities throughout the week. In addition, children could use the morning *options* period to finish up projects begun during the long lesson.

We set up a table and two walls for display space in an area we labeled the *art gallery*. On the table children found postcard reproductions to select for their own art collections which they kept in individual scrapbooks. Sometimes they also found sheets of paper set out on which to record their answers to questions about the reproductions we had mounted on the walls. In addition, we cleared several surfaces on which to exhibit children's work.

I incorporated art discussions and the sharing of children's sketches and reactions to our museum visits during daily group discussions. By the semester's end our program had included the following activities which combine making, looking at, and talking about art:

Making Art
- a clay relief self-portrait
- stenciled prints of an Egyptian figure
- a clay bas relief of the same Egyptian figure
- three life-sized charcoal drawings of classmates posing as Greek figures, one of which was completed in acrylic
- human figures constructed from recyclables
- abstract paintings using a limited palette and assortment of brushes

Looking at Art
- gallery of family photographs curated by the children
- personal art collections of postcard reproductions
- two visits to the Krannert Art Museum
- one visit to the World Heritage Museum of Culture
- a classroom art gallery

Making Their Own Art

On questionnaires sent to them six months after our program ended, the sessions that children most remember are those in which their making of art was most thoroughly integrated into a multifaceted approach involving art history and discussions about art. These results confirm research on the effectiveness of theme-based curriculum (Caine & Caine, 1990; Katz, 1989, 1993). We shall describe one of these.

Egyptian Figure Stencil Prints

Our Egyptian stencil print session was the first in a sequence of lessons developed around an Egyptian theme and it illustrates the sophistication of which young learners are capable. Not only are they able to become eagerly engaged in forays into art history and discussions of style, but they can also be introduced to the complex technical properties of art. Our Egyptian projects also illustrated Sandy's commitment to maintaining enough flexibility to allow changes and responses to fortuitous situations (Elkind, 1993).

Sandy: An approach to art education that makes sense to me is integrating art into the classroom so that students learn in context and make connections with situations that are either serendipitous or planned (Gullo, 1992). When I planned the Egyptian Figure Stencil Print Lesson, I wanted to connect to the situation that had occurred during our class's field trip the preceding week to the Elizabeth Catlett exhibit of linocut, lithograph, and serigraph prints entitled *The Black Woman in America*. This was an occasion, more fully described later, on which a second grader uncovered the metaphor buried

in the serigraph entitled *Three Women in America*. While the class was exploring the artist's use of color and her technique of overlapping the three faces, the child had concluded the print was "saying people should be able to get along together no matter what their skin color." The other children had agreed, restating the idea that people should not let skin color come between them.

I felt that moment in which children voiced their understanding of Catlett's print should not be lost. Therefore the following Friday I chose to introduce a printing technique that would bring us back to the print's image. Gathered around our demonstration table that Friday we recalled in our mind's eye Catlett's image of three overlapping women and what it had said to us about human relationships. Then I talked about the technical properties of the print. To make clear that each color required a separate stencil, I had a large 19" x 24" silk-screen, two stencils, a squeegee, and supplies to demonstrate a two-color silk-screen print.

Prior to gathering the class for the demonstration, I had tutored a second grader to help register the printing paper and squeegee the ink. This child demonstrated with squeegee and ink, one, then two colors. At this point everyone understood that Catlett's print of twenty colors was a technical accomplishment to be admired and that they, too, could make individual multicolored stencil prints. We simplified the process by reducing the print size and using sponge daubers to apply paint, rather than a silk-screen.

In order to keep within the confines of the curriculum goal—a look across time and cultures at the portrayal of the human body in art—our subject for the printing lesson was the human figure using the Egyptian style. The children understood that an Egyptian style figure has a profile view of head and feet, but a frontal view of the torso and eye. They drew Egyptian figures with ease, but needed help cutting stencils.

A second session was required for the actual printing of their figures. As before, a child who was ready to print was tutored and invited to demonstrate to the class. In this way the art teacher is not the sole disseminator of knowledge but a co-creator. Intrigued by the role of the *atelierista* in the Reggio Emilia approach to early childhood education, and keeping in mind their image of the child as the protagonist of his or her own growth, I created possibilities for the children to direct their own learning. And as Katz and Chard (1989) predict, the opportunity for significant interaction with each other and a curriculum rich in content thoroughly engaged their interest.

The art history for this session was also planned for peer teaching. Five children volunteered to explain the five 12" x 18" reproductions of Egyptian figures exhibited on the wall of the classroom art gallery. Each child memorized what was stylistically or culturally important about his or her print and presented it to the rest of the class. The audience, understanding the important role of quiet listeners, was attentive to their peers' presentation.

The children appreciated the importance of learning about art history and artists. One exchange between two first grade students illustrated their growing satisfaction with the program. A first grader recently enrolled in the school commented that his former school lacked art and they were lucky to have art in this school. A second child replied that they were fortunate to be learning so much about art because in her former school they had just been given materials with the instructions to make whatever they wanted.

Elizabeth: The success of this themed sequence and its lasting impression on its young participants resulted from many factors, chief of which may have been its duration and the multiplicity of forms in which various elements recurred. Children experienced the conventions of the Egyptian style over an extended time in

a variety of ways. They saw and discussed such figures during a museum visit and in their classroom art gallery and private postcard collections. In addition they recreated these conventions in silk-screen prints, sponge daubed stencils, and clay bas reliefs. They encountered narratives about such figures through books read to them in school, stories recounted to them at the museum, dramatizations of art history they engaged in and stories they made up about their own creations. In short, the Egyptian figure was presented to them through a many layered and rich experience.

A major concept, however, that I would add to all areas of our program, emerged as the result of our final art project. Children made large sketches of their classmates who were imitating poses of classical Greek athletes. This final project asked children, for the first time, to draw from observation rather than memory or imagination. According to Dennie Palmer Wolf (1992), unlike real artists who frequently draw from observation, elementary school students are rarely given such opportunities. Research shows that drawing from observation enhances children's graphic competence and understanding of the world (Burton 1980; Katz 1993). On noting this distinction, a major concept emerges that our entire program could have underlined. Our museum questionnaires and whole group discussions could also have explored the sources of artists' ideas. For each art work we looked at—whatever its culture and whoever its artist—and for each artwork children made, we could have asked whether the ideas came from immediate observation, memory, or imagination.

Looking at Art

The Art Gallery

Like each major element in our curriculum, our art gallery had many purposes and was the emergent product of an interaction with these elements. It displayed interesting visual items encouraging the children to develop the habit of looking carefully, introduced them to the conventions of formal art exhibitions, and reflected concepts in the rest of the program. Although we began without a series of exhibitions clearly in mind, we knew we wanted to correlate the displays to our emerging curriculum. By the end of the year we had mounted three relevant exhibits.

Our first exhibit's display of portraits complemented our first museum visit to *The Black Woman in America*, an exhibit of prints, mainly portraits, by Elizabeth Catlett. It was also an appropriate introduction to the clay self-portraits that children were to begin in the art session which followed our program's opening session when we had compared two sculptures of heads, Greek and Indian. The second exhibit displayed five colored copies of Egyptian figures mounted on black paper to which we later added a bas relief and a few three-dimensional reproductions brought in by one child. This exhibit related to Egyptian stencils and bas reliefs that the children created. The third display, the result of adding colored copies of Greek figures, encouraged a comparison between the two styles. The comparison was further developed during our field trip to the Egyptian and Greek galleries of the University of Illinois's World Heritage and Culture Museum where they discovered, as we intended, some of the same figures. Students later recalled the Greek figures during a life drawing session in which they took turns imitating the figures' actions while their classmates sketched them in charcoal. Describing our first exhibit reveals issues involved in planning, clarifies the procedure, and shows how such a gallery can initiate children into conventions of the museum world and stimulate higher order thinking about art.

First Display

Many factors affected which reproductions from the Reinhold collection we chose. We limited this first display to portraits because they fit well into our planned activities and because, despite having obtained parental permission, we wished to avoid images of nudes before our program had gained credibility. Our selections included both genders and many cultures because we aimed to present our homogeneous student body with a wide range of humans whose images had been reified and imbued with the potency art bestows upon its images. (Our students were all white and mainly the children of affluent parents.) Also we wanted to exemplify a range of styles. Consequently we made five selections. Going from most realistic to most abstract were *Ceremony* (a colorful photograph of a young Japanese girl), Copley's *Boy with a Hat*, an American primitive, *Black Girl with Watch*, Matisse's *The Rumanian Blouse*, and Picasso's *Woman with a Hat*.

The exhibit introduced children to three concepts: the distinction between originals and reproductions, the distinction between photographs and paintings, and the idea of wall text. A large computer-generated banner hung above the images asked:

"Which of these is a photograph of a painting of a person, and which is a photograph of a person?"

On a table next to the wall were five sheets of paper, one for each reproduction. Here students recorded answers and reasons. In addition to the five reproductions, students could examine an original canvas displayed on the table and accompanied by a caption identifying it as an original. The wall text which flanked the reproductions read as follows:

> Before cameras were invented, people had portraits painted of their families.
>
> Now we have the camera so very few of us have our portraits painted.
>
> Paintings, then, no longer have to be *realistic*.
>
> The pictures on the wall here are all REPRODUCTIONS. In other words, they are all copies of an original picture. Some are photographs of photographs. Some are photographs of paintings.
>
> Only the canvas painting you see on the table is an original and not a photograph.

Because students had not been formally alerted to this first gallery exhibit, I would sporadically collar a passerby, point out the reproductions and questions and ask the child to record an answer. Eventually most children did address these questions. Both with and without encouragement children arrived at answers which considered either the contents of the images, the subject matter, the artistic technique or style or extrinsic technical matters.

For example, children looking at *The Rumanian Blouse* commented on its technique concluding it was a painting because "it didn't look carefully painted," "not all of the skin is colored," and "the arms are too big." Others, perhaps prodded by a teacher, decided that the *Boy with the Hat* was a painting because they could observe cracks in the paint.

One first grader was unable either to distinguish a photographic representation of a person from a highly abstract representation or an original painting from a reproduction. (Perhaps significantly, although reading at a second grade level, this child was still at the tadpole stage in his drawing of people.) The first distinction was clarified after we compared a real woman's face with the face in Picasso's *Woman with a Hat*, done in cubist style. He grasped the second distinction after I hung an original, fairly realistic portrait done in oils with easily seen brush strokes accompanied by a snapshot I had taken of it.

Elizabeth and Sandy: The gallery achieved our goals conveying both ex-

plicit and implicit messages. The children enjoyed the exhibits and grasped many of the concepts. In addition we conveyed the *implicit* message that looking at and talking about art are activities seriously regarded by adults and of enough value to be included in the school curriculum.

Changes We Might Make

Reflection suggests a major pedagogical change. We would use more direct whole-group instruction introducing exhibits and more ways of recording and observing individual responses. The importance of guided observation, prior instruction, and followup is a lesson that repeatedly emerges in succeeding sections as we recount our experiences with children's personal art collections and our museum visits and reflects much current research in learning (Paris, Wasik, & Turner, 1991).

Personal Art Collections

Reflection underlines the affective and cognitive values of having students make their own art collections. By encouraging children to examine pictures closely and repeatedly and take caring stances toward them, collecting promotes cherishing (Broudy 1972; Stake, Bresler, & Mabry, 1991). Collecting enculturates children by familiarizing them with works of art and artists, and implicitly tells children that adults value talking about, looking at, and owning art.

Aline Wolf's *Mommy, It's a Renoir!* (1991) inspired this activity although our procedures differed. We laid out a set of postcards which children examined and ranked in order of preference. We tried to give them one of their first three choices. Children then mounted and added the card to their personal scrapbook, recording the title, artist, and year of their work, and giving a reason for having chosen this particular reproduction.

Elizabeth: Like many good ideas executed for the first time, our procedures resulted in unforeseen consequences that should give caution to researchers. Since the scarcity of duplicates generally precluded all children's getting their first choice of a popular image, they began to devise strategies for beating the system. One child, as he revealed to a visitor, consistently marked his first choice as second since he had decided he had more chance of getting his second choice. Such strategies invalidated any inferences about their taste that we might have made based on their choices. Increasing the number of selections brought other problems. The large number of pictures was confusing and reduced the time spent in close examination of each. Many cards appealed to no one. Children generally rejected cards done in a child-like style. A semi-abstract painting in bright colors also failed to please anyone.

A potentially more satisfactory procedure emerged during the display of postcards of Greek vases. Although only three selections were presented, the ample supply of duplicates allowed all children their first choice and I became impressed with the importance of planning for unrestricted choice.

In addition to the benefits of unrestricted choice, succeeding displays began to show me the value of decreasing the number of selections themselves. Limiting the selections would allow each one to be examined more carefully. Another important modification would be increased guidance prior to selection as well as more discussion after selections were made. Limiting the number of selections would enable each selection to be introduced at a whole group meeting. Children could then become acquainted with the artworks ahead of time, receive some guided instruction, and have the opportunity to ask questions. Thus, they would be able to give the choices they made more consideration.

The power of guided examination particularly emerged during our museum vis-

its. There, for example, when children were free to choose a painting to sketch, we noticed *they were particularly drawn to the works that had been discussed by their guide.* One child even chose to sketch a painting that had been analyzed in a previous year's visit to the museum.

In addition to adding more detailed whole-group guidance and discussion *before* children made their choices, post selection conferences would both reveal the reasons behind children's choices and encourage teacher and student to make closer observations and engage in more critical thinking. Such an addition is inspired by a casual conversation with a first grader about his first choice in a selection of mother and child reproductions.

I had overheard other children basing their selections on the gender of the child portrayed. Most boys wanted only pictures which depicted boy children. This little boy's reason was different. "There are fewer people in this picture," he told me. However, when we compared his painting's three figures with the other reproductions, we found most depicted only two or three figures. We then looked for what had drawn him to the painting and led him to say there were fewer people. Closer observation revealed a less crowded painting. His figures were small in relation to the frame. The large amount of space around them showed two uncluttered, clearly defined and carefully painted rooms. The general effect was of peace and order.

The analytical skills employed in our discussion about the relationship of a figure's size to the picture space that contains it and the effect of such a relationship on the viewer highlight the rich possibilities of such conversation. Attending more carefully to prechoice and postchoice discussion also reflects current practices in the teaching of reading which advocate building up prior knowledge in prereading instruction and encouraging higher order thinking in the postreading phase (Paris et al., 1991).

Museum Visits

Elizabeth and Sandy: Through their three museum visits, children directly experienced the power of original art, actively engaging in lively interactions with the intentional creations of serious artists, learning about some conventions of the artworld, and making connections between themselves as artists and adult artists. Research shows that without such instruction young children seem unable to make these connections (Gardner, Winner, & Kircher, 1975). Each visit fit into our total curriculum and supported other art activities. Visiting a print exhibit of portraits stimulated our own printmaking. Visiting a second museum's Egyptian and Greek galleries related to art children were creating based on studies of Egyptian and Greek figures. Our final visit which focused on six paintings of human figures done at different times in different styles, summed up many of our program's concepts.

> Artists have different reasons for creating figurative art.
> They use different materials to do so.
> Their productions can differ in style.
> Words such as *abstract* and *realistic* can be used to describe these differences.
> Art exhibits use wall text to give important information about each artwork.

The success of these visits resulted from our realizing that visiting a museum, like reading a text, really consists of three stages: *pre-visit, during visit, and post-visit.* Our close attention to each of these three stages resulted in the children's high involvement throughout each phase.

The First Visit: Elizabeth Catlett's Black Woman in America

Elizabeth: Before this trip we all gathered for a preparatory discussion designed to make connections. Because we were studying the human body in science, I explained, we were also going to study

the human figure in art. Thus we were visiting an art exhibit which focused on the human figure. I gave each child a questionnaire and clipboard and we discussed the first two questions: What materials could be used by artists to create the human figure? What were some reasons for making human figures? Their answers to the first question began slowly and then gathered speed as we compiled a list which included wood, paint, clay, plastic, papier mache, porcelain, yarn, iron, and various precious metals.

The second question required more thought but gradually the children offered a variety of answers whose thoughtfulness seemed independent of their grade level or age. Below are all of their written responses. One child was absent and two didn't record their answers.

First Grade

If you like (someone)
To show that they are a good person and to remember them

Second Grade

Some people get bored at the museum so if they see human figures they will look and they wouldn't be bored.
To be nice.
So that other people can see and feel how they felt.
Because some people are very special.
Just for fun
Because they like art. Because there are so many people to draw.
It's fun.

Third Grade

Because there are many kinds of them. No two are alike.

After talking briefly about the artist whose work they would be seeing, Elizabeth Catlett, I displayed an exhibit catalogue that Sandy had provided and explained the afternoon's procedure. First the exhibit's curator would give us a tour. Then students would sketch that print they found of most interest and answer some questions on their questionnaire. Then children would be free to search another gallery for a picture of a human figure that interested them enough to make a second sketch. Holding their clipboards importantly, the children were eager to begin their visit.

At the museum we met the curator (who was also the museum educator) and showed her a copy of our questionnaire. Since we had discussed our program's focus beforehand, the questionnaire caused few adjustments. The entire tour was confined to a single, relatively small gallery. The complete exhibit consisted of twenty-two prints, predominantly black and white linoleum cuts or lithographs. The curator, who combined questions to the children with lecture, demonstration, and close examination of a few prints, communicated many concepts and introduced some new vocabulary to her audience. She asked the children why they thought artists made art (one child blurted out "money"), discussed the concept of prints and series, and explained some of Catlett's reasons for creating the series. She showed how the titles, when read consecutively, made a kind of poem or statement. The first in the series of fourteen prints, *I am the Black Woman,* was followed by others which read, *I Have Always Worked Hard in America, In the Fields, In Other Folks' Homes,* and so forth. She focused on print no. 6, *I Have Given the World My Songs,* in which a seated woman in the foreground plays a guitar. Upon examination the children could discern a burning cross in the middle background and hooded white figures in the process of grabbing a man in the distant background. The children were fascinated and outraged.

Their guide explained that the term *portrait* as opposed to *landscape* described most of the prints in the present exhibit. In response to a comment by one of the children that one portrait looked as though it were carved, she talked about style and introduced the terms *realistic* and *abstract.* "I thought," the child said, "*abstract* was only used for drawing." The curator explained what a

numbered series was. Many children, fascinated by this idea, subsequently spent time noting and exclaiming about the numbers on the prints.

Her extremely attentive audience at last became a little restless, and she turned the group over to Sandy.

Sandy: I invited the children to sit down in front of one of the only prints that was in color, a multi-colored serigraph of three overlapping figures. The audience was delighted when I explained we were going to play a game called "See for Yourself." Then I held up a violet colored card and asked "How does the artist use colors?" "Where has Catlett used this color?" Although I did not underline my intent, the game's purpose was to draw the children into a closer examination of the work.

The ensuing discussion (documented on videotape for assessment purposes) more than met our intention of guiding the children to discover metaphor in art. It was a powerful illustration of the capacity of young children to engage in a sophisticated discussion of art in a collaborative search for meaning. Two volunteers showed where they found a particular color; then I pointed out how repetition of color made their eyes travel through the painting. At this moment in time, a lively debate emerged. A second grader referred to one of the figures as being a guy. He was quickly contradicted by several of the others. "It's a girl," one student argued bringing up as evidence the title of the exhibit, "The Black Woman in America." Her persuasive evidence ended this discussion.

"I see something. It's unusual," a thoughtful second grader called out and pointed to the way the colors changed where the heads overlapped one another. The boy who had started the debate about gender exclaimed that he too saw something that was different. He showed how the eyes overlapped and the middle figure shared her eyes with the figures on either side of her.

I wondered aloud why the artist might have done this, and the second grader exclaimed with certainty, "It's easier." Another child noted that the skins overlapped and mingled and that both of the characters beside the central figure contributed to making the character in the center. I then drew attention to the different ethnicity of each figure: Caucasian, Asian, and African-American.

Suddenly one second grade girl sat up straighter and said to her audience with great earnestness, "I think I know what this picture is saying. That people with different colors of skin that are different can get along." Several children responded and showed support for her interpretation by adding similar comments. One child claimed that the print shows we "can all live together." Another one added perhaps humorously, "We can all live together even if stuck together like twins." Like David Perkins, we found that giving looking time and focus to the discussion enabled the children to see clearly and deeply (1994).

Elizabeth: After the group examination ended, children scattered about the gallery to pick a print to sketch. They quickly became engaged in drawing and answering questions. Both educators and parents were amazed at the children's level of concentration. The surprising amount of time that all spent in this one small gallery required scaling down our plans. In place of a second sketch we substituted a quick foray into the Museum's African wing where Sandy could pick up the comment made earlier by one of the children about the carved look of some of Catlett's faces.

During this brief tour Sandy showed the children several masks which she described as *abstract* and related to several of Catlett's prints. She pointed out how Elizabeth Catlett used the art of her ancestors for ideas. The children were also asked to suggest possible functions and settings for these masks. Most linked the masks to ceremonial occasions before reading the wall text for information. We returned to school with just enough

time before dismissal to collect student questionnaires and the catalogues each had been given. We promised our disappointed students, who were eager to show off their drawings and catalogues to their parents, that they would have this opportunity after they had presented their work to the class.

Each day several children shared their choices and reasons for making them by showing their sketches or using their catalogues. Our first and most formal debriefing took place early the following week. Sandy made a special visit to be present. We began by reading a book bought at the museum. The book, *Aunt Harriet's Underground Railroad in the Sky* by Faith Ringgold, fit both the exhibit and calendar since it was Black History Month. After reading and discussing the story we shared responses to the Catlett exhibition.

These responses influenced subsequent museum visits. We learned that a few children had chosen a print because they thought it would be easy to copy. Subsequently we urged the children to choose the work they found of most interest and to ignore the quality of their copy. The purpose of copying, we explained, was to help them look more carefully at a work that they liked and to provide them with a reminder of a piece that had struck them. Although they needed to share their choices and reasons with us, showing their sketches was completely optional.

Most, however, were eager to display their detailed sketches and share the reasons for their choices. Again, the complexity of their answers seemed independent of ability or age. Their responses repeatedly revealed the impact of observation guided by adults. Children generally chose works that had been discussed with them by adults. Our museum experience confirms the claims made by Katz and Chard (1989) about the responsiveness of four- to eight-year-olds to adult suggestions.

First Graders

All of the first graders copied prints discussed or mentioned by adults. One chose the image described earlier, *I Have Given the World My Songs,* which depicted a guitar-playing woman, a burning cross, and white-hooded attackers. His explanation for this choice was "because she is playing a guitar." When asked why he thought Catlett had made the print, he wrote "because she wanted people to know what they were doing was wrong."

A second child chose *Three Women of America,* the colored serigraph of three overlapping heads, each representing a different ethnic identity, which had elicited such thoughtful discussion. Her reason was that this print had colors and "their shirts are prite (pretty)." The artist's reason for making the print was "to show that all diffrint sankn (skin) peppel can gat along."

The third first grader made a highly detailed copy of *Jackie,* the print whose carved look had been mentioned but whose content had not been discussed. Perhaps for this reason, the child ignored the question of why the artist made this print. The explanation for his own choice was brief: "It's neat."

Second and Third Graders

A majority of the older children also chose prints discussed by adults. One child selected a print called *Cartas* (whose Spanish title had been pointed out on the tour), because "it looked so creative." Perhaps, she explained, the artist found the subject neat. The depicted woman "might be thinking who those letters are from or why she wrot it or who there to." Some children could explain the artist's reasons for creating a work more easily than their own for choosing it. The little girl who had so perceptively voiced the theme of *Three Women in America* publicly, explained her own choice of *Harriet Tubman I Helped Hundreds to Freedom*

by writing, "I just like it." On the other hand she thought that Catlett had made this print "to show people that you should not be mean to each other."

A third grader explained her own choice of the same print by citing information: "It shows that Harriet Tubman lead blacks to freedom." Similarly she wrote that Catlett made the print "because she wanted to show that blacks were slaves and they had to go to a certain place in order to be free."

Two others wrote sensitively about a print they had chosen independently. Both selected *Harlem Woman* because of the feelings it communicated. One child wrote, "it looks so real when I look at it I can really feall what the person is feal." She was sure Catlett created this print "because she wanted everybody to feal the sorrow." The other wrote that Catlett wanted "to be mysterious, and to show people that black woman aren't feelingless."

When all students had had a chance to share with the group, they could at last take home both their sketches and their catalogues, which they had been eager to do immediately after their visit. Although the delay had probably dulled some eagerness, we felt the educational effects of discussing their choices with the whole group outweighed the loss.

Reflecting on our program's museum component leaves us both quite satisfied that our careful preparations and focus on just a few art objects did indeed encourage students to be interested and observant museum visitors who were actively engaged in their encounters with art. Some of the comments about brushwork and style made in their last visits would not have been possible earlier. They showed a growing knowledge of and ease with museum conventions such as wall text. And even in these early grades they showed an interest in and capacity for engaging in aesthetic discussions.

Conclusion

Elizabeth and Sandy: Reflecting and writing about our collaboration has made us more fully recognize the insights we gained and the questions that remain. We are even more confident than when we began that children in the earliest grades can profit from a curriculum which expects them to engage in discussions about art and art history as well as to create art products.

Our experiences underlined the need to plan flexibly enough to adapt to children's responses and to draw conclusions, particularly about children's preferences, cautiously, while reminding us of our power to influence to what object a child attends. Whether children translate our attention to specific works as statements about these works' greater value or importance, is a question that both researchers and teachers should consider.

We have been continually impressed by the insights and growing sophistication displayed by children in their collaborative discussions and verbal presentations. Such observations confirm Gardner's theory that the development of an individual's understanding of symbolic languages is enhanced, not didactically, but over time through regular interaction with participants of a higher level of sophistication (1990). Can our observations, then, about the educative value of discussion about art support the claim that *discussion* should be placed on an equal footing with *making art* in early childhood education?

We, too, have grown through collaboration. Our reflective discussions both in preparation for and during the course of our program helped us to link theory and practice, underscoring the powerful role of purposeful conversation. The need to articulate our ideas explicitly both as we developed our curriculum and as we constructed this story led us to recognize and respect our different emphases as

we shared our expertise and yet discovered our commonality. One of us consistently attended to the experience of the individual student, aiming to develop the child's self-confidence, while the other emphasized the program's thematic and intellectual connections. We came together in our common desire to construct an environment which encouraged the student to become an independent learner and to create an art program that went beyond making. Respect for each other led us to broadening our vision as we applied both approaches in our program, writing, and thinking. As we have repeatedly compared our versions of what we thought happened and why, we have been led to the insight Bateson describes as "that depth of understanding that comes by setting experiences, yours and mine, familiar and exotic, new and old, side by side, learning by letting them speak to one another" (1994, p. 14).

We end as we began by hoping that sharing these descriptions and reflections on our own experiences with our readers will extend their own memories and aid them in their own construction of knowledge about the world of art and art education or about other issues we cannot foresee.

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Toward a Sensible Education: Inquiring into the Role of the Visual Arts in Early Childhood Education

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There is ample reason to believe that a child is a sensing entity while still in the womb. At birth, this becomes a given. Sensory responses to phenomena become the hallmark of infancy. Early development is the measure of how infants handle the information their senses provide. The sensory nourishment so critical to the growth and development of each child is governed by three basic constraints: genetics, environment, and values. While the first two constraints relate to the physical nature of human beings and the caprice of birth, the last is a matter of decisions made by those who provide care for a child. Many factors related to these categorical constraints shape the maturation process, but it is those decisions grown-ups make for us during our early years that have the most profound effect upon what we become, and are becoming.

This mix of genetic compulsions, environmental influences, and human intervention ultimately determines the health—if not the survival—of the society in which the child becomes a member. As our social order becomes increasingly complex and plagued by conflict, we confront the need to understand more fully the passage from infancy to adulthood in order to plan educational initiatives which support human and social needs.

When we examine the literature related to early childhood education and the practices and values of teachers and caregivers, deficiencies in the kind and quality of research in the area of early childhood education become apparent. While physio-psychological studies abound, they are usually generated by distant authorities whose positions regarding the emotional, social, and intellectual growth of young children seem to be inconsistent with much of what those who work with and care for children on a daily basis suspect or know about young children. The vast majority of studies promote cognitive development to the exclusion of other, equally vital aspects of early childhood learning. Many "over-the-counter" professional publications ignore research altogether: They pander to those who seek to confirm the correctness of their use of art—or "art-like"—activities to occupy times in the school day not devoted to "heavy duty" learning.

Research efforts related to the visual arts in early childhood education often seem to be arrogant toward, and irrelevant to, those who change the diapers, wipe the noses, and hug the hurts of very young learners. Yet, for all that may be lacking in the designs of current research, in the literature it produces and the practices it promotes, the issue is not *whether* research can serve the needs of children, but *how* it will do so, and to what ends. Among many other things, well-conceived and carefully conducted research may reveal that sense-satisfying art and "art-like" activities and the behaviors they reinforce not only ground emotional and social growth, but are the very things that make cognitive development possible. A recent inquiry into the role of the visual art in early childhood education strongly suggests that a sensible education for young children is one in which developmental appropriateness means *sense-appropriate* practices.

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An Inquiry into the Role of the Visual Arts in Early Childhood Education

Since the early 1980s, the Chief Executives and corporate officers of Binney and Smith, Inc., have recognized the great need educators and corporate leaders have for solid evidence that formal preschool and primary grade school art experiences significantly influence young children's success in public schools. Their longstanding interest in both art and early childhood education led them to fund an inquiry in these areas conducted by art educators at the University of Wisconsin–Milwaukee. The effort began in January, 1988, and concluded in the summer of 1991, though data collected during the inquiry continues to be analyzed and interpreted.

The inquiry first reviewed documented practices and literature which seemed pertinent to the role the visual arts play in early childhood education. It then initiated a field study of the place of art and "art-like" activities in ten preschool and nursery school settings in the Milwaukee area, and concluded with focused interviews with preschool caregivers, primary grade teachers, and home caregivers of 605 young children. The children represented in the final study included 100 preschool three year olds, 50 four year olds from private preschools and 50 four year olds enrolled in preschools operated by the Milwaukee Public Schools, and 100 Milwaukee Public School students in each grade, kindergarten through third grade. With all settings and subjects, special efforts were made to maintain social, economic, and racial distributions consistent with the demographics of a major urban area.

Although a comprehensive report on the project is beyond the scope of this article, it is possible to share the rationales behind various aspects of the inquiry, to sample the data collected, and to present some of the insights provoked by studies completed as part of the larger inquiry.

The Review of Documented Practices and Literature

Several convictions focused this review. There was nearly unanimous agreement among those involved with the inquiry that profound changes must occur in the ways that young children are nourished in body, mind, and spirit. There was general agreement that the care given to preschool children deserves attention equal to that devoted to the education provided in the public schools. All believed that art—or, more accurately, "art-like"—experiences were essential to the growth and development of all children, especially the very young. Consequently, all were convinced of the need to better attend to the role of the visual arts in day care centers, nursery schools, and primary grade classrooms. Furthermore, most assumed that a rich source of information would be found through a search of literature which would serve as grounding for studies within this inquiry.

The reviews of literature proved to be disquieting, however. Little information regarding the visual arts in early childhood education was available, and that which was located seemed to have little substance. An ERIC search of literature both in the general field of education and the specific area of art education was cobbled by the absence of categories that coupled the two terms. This fact in itself indicates a history of only marginal interest in this topic by either art educators or education generalists. The research that was identified seemed to be preoccupied with issues tangential to this inquiry, such as the nature of creativity, cognitive responses to the formal properties of works of art, psychological and perceptual behavior, or young children's preferences for various works of art. With rare exception, researchers tended to equate "early childhood" with the primary grades. The small daub of literature that described art or "art-like" activities, or art-centered curricula, for young chil-

dren appeared in textbooks or in articles in professional journals or the popular press. Often these articles described what their authors declared to be successful art activities, or were personal expositions on the aesthetic needs of young children. Most focused on the relationship of object- and media-centered activities to developmental needs—or, perhaps more accurately, assumptions—that are frequently rehearsed in educational literature. The few books which specifically addressed the role of the visual arts in the education of young children were simply expansions of early chapters in more broadly based elementary education methods texts. Textbooks, with few exceptions, presented simplistic methodologies which drew upon earlier methods books for their authority. A close look at the reference lists of these books and articles confirmed that little, if any, qualitative or quantitative research informed the theories or practices they espoused.

When art educators or educational generalists did address the role of the visual arts in early childhood education, they did so in an essentially limited and presumptive way. Art related research seldom appeared in the larger context of early childhood education publications. It became apparent that neither art educators nor their colleagues in early childhood education were adequately informed about the art or "art-like" experiences young children acquire before entering public schools. The documented practices and the literature of the two fields suggested that preschool caregivers, art educators, and general educationists seldom correspond in regard to the role the visual arts play in the lives and the learning of very young children.

The General Nature of the Inquiry

In response to these findings, the inquiry was shaped to encourage and contribute to the establishment of a defensible base of information about the role of the visual arts in the physical growth and emotional and intellectual development of children in preschool and primary school settings. Its purpose was six-fold:

1. To gain insight into the nature of visual arts activities and the level of support for such activities in day care centers and nursery schools;
2. To seek information about parental values and beliefs regarding the role the visual arts play in the schooling of young children;
3. To determine if day care center and nursery school experiences influence the academic and artistic performance of primary school children;
4. To seek evidence that "art-like" behaviors or abilities contribute to the academic success of children engaged in the primary level of schooling;
5. To determine if patterns can be discerned between gender and racial factors and the "art-like" behaviors and academic success of three- to ten-year-old children;
6. To inform recommendations for future research, for preschool and public school curriculum design, for professional development initiatives, and for courses in higher education.

The design for gathering, analyzing, and interpreting data called for four stages of effort. The first stage focused on the physical and instructional presence of visual art in daycare and nursery school settings. It also sought information about the art-related beliefs, values, and skills of caregivers in these settings. The second stage sought facts about the age, race, and preschool experiences of the children participating in the study, as well as information about perceptions of the children's academic and artistic abilities held by their teachers, caregivers, and parents. Adult informants were asked about the physical attributes, academic performance, social behaviors, and drawing abilities of the children in their care. After the data elicited through carefully structured and controlled interviews,

in person and via telephone, were collated, the third stage of the research produced a statistical analysis of the various behavioral and performance relationships this inquiry proposed to investigate. The final stage of the inquiry called for interpretation of the findings and the formation of conclusions.

Three decisions related to the design of this inquiry merit more extended explanation. The term "art-like" was used to more accurately signify the kind and quality of young children's behaviors, the environments in which they act, the materials and objects they use, and the adult perceptions, decisions, and actions related to the children and their activities. We felt that the term "art," in and of itself, reflected an adult notion of a particular category of objects, techniques, and beliefs that failed to convey the holistic world and developing behaviors of the very young learner.

It must be emphasized that this inquiry sought caregivers' *perceptions* of the performances and behaviors of the children studied. Several factors influenced this decision. While various tests of cognitive ability are available for use with very young children, no comparable measures of art-like operations were identified. The seemingly subjective perceptions of children's regular caregivers provide a reasonably consistent form of measurement for both academic and art-like abilities, one which would make comparisons more coherent and defensible. Furthermore, the perceptions of caregivers are far from arbitrary: They are informed and governed by standards of practice and expectations stressed during professional preparation and entrenched in preschool and public school environments. Teachers' and caregivers' abilities to rank the academic and art-like abilities off their students are generally assumed in school settings. Except in the relatively rare situation in which an art specialist intervenes, support and reward for both academic and art-like performance is given by classroom teachers. It is the classroom teacher's perception of student performance that determines the kind and quality of experiences children undergo, and the rankings they achieve, in preschool and public school settings alike. The perceptions of preschool caregivers and public school teachers, being the essential determinants of a child's ranking in all things related to those environments, were seen as the baseline upon which any research must rest.

Finally, drawing operations were established as the measure of children's art-like performance for several compelling reasons. Artists overwhelmingly identify drawings as the practice central to their work, regardless of its ultimate purpose and form. It has been the tradition in art education literature to illustrate children's growth and development through their drawings. Drawing is the art-related activity featured most prominently in textbooks and curriculum guides, and in the art and art-like activities promoted by art specialists and classroom teachers alike. Finally, when children engage in art or art-like activities that they themselves control, they usually elect to draw, either directly or indirectly, with rolls of clay or painted lines, for example.

The data gathered from field study of preschool sites was examined through percentage compilations. The *Student Profiles* solicited from caregivers and primary grade teachers and the *Parent Surveys* were analyzed using Chi-square to show performance and behavioral relationships with significance at a p. <.05 level. Concurrently, gross percentages were generated and graphed to illustrate the relationships which this inquiry investigated.

A Brief Summary of the Data

The following summary identifies findings concerning the place of the visual arts in day care centers and nursery schools, parental values and beliefs, and relation-

ships pertaining to drawing ability and academic performance.

On Day Care Centers and Nursery Schools

Day care center and nursery school personnel at all sites investigated were very sensitive to, and positive about, the roles the visual arts played in their programs. Teachers and caregivers estimated that half of their program time was spent initiating and monitoring art-like activities. Both administrators and caregivers sought information about the arts in early childhood education from various sources. They were also aware of several constraints they dealt with as they attempted to support and enrich art and art-like activities within the profit-driven enterprise of early childhood education. Among the constraints mentioned most frequently were the shortage of well-trained directors and staff members, the lack of relevant opportunities for staff members to upgrade their knowledge and skills, and the absence of information about appropriate and practical visual arts practices.

Although day care and nursery school personnel often mentioned budgets and facilities as limiting factors, it appeared that decisions about materials, space, and practices were often predicated upon a generalized insecurity about the visual arts or a shallow conception of what should or could be done with young children. Artwork and art-like activities were featured at all sites, but the work and the activities tended to be indiscriminate in kind, quality, and presentation, suggesting limited understanding of their properties or value. Furniture, equipment, and materials specifically designed or used for art-like activities were rare, and, when present, often inappropriate for preschoolers' physical abilities and management skills.

Inventories of the art materials found in care rooms were telling. All had art materials available for young children's use, but adults controlled or managed access to these materials close to 90% of the time. Surprisingly, only 60% of the rooms visited provided drawing media such as markers, pencils, and crayons, though 85% held painting media. All rooms had media to support cutting, gluing, and mixed media activities, but only 40% of the rooms contained media which invited three-dimensional construction. It seemed that sharing between classrooms was frequently adopted as a way to extend supplies, especially with drawing media; large boxes of crayons and markers often came from a common pool, for example. Although the materials available were strongly biased toward drawing-like activities, there did seem to be adequate supplies and opportunities for children to engage in self- and adult-directed art-like experiences at every site.

It became apparent that day care centers and nursery schools, with their strong support of art-like experiences, could be described as mini-art centers in promise, if not in fact. They are governed by individuals who seem exceptionally open to professional development in the visual arts and sensitive to the inherent values of art activities. Yet these administrators and caregivers tend to have a limited understanding of the critical role the visual arts play in the preschool years. Thus, on one hand, day care centers and nursery schools seem to be places where children enjoy dramatically enhanced opportunities and support for visual development. Yet, unfortunately, these special qualities may be inhibited or degraded by the lack of proper support and preparation provided to the adults who determine the kind and quality of experiences that children have within these settings.

On Parental Values and Beliefs

Parent support of children's art experiences was evident in many ways. A large

majority of the parents we interviewed indicated that they too care to respond to art-like work that their children brought home or produced at home. It was significant that 33% of the more than 450 parents interviewed felt that art activities were essential in helping children learn, and 44% felt that such activities were very important in this respect. Asked about the specific benefits of art activities, 96% of these parents noted that they made children more creative, 92% said that they made them more observant, 92% said that they improved children's self-confidence, and 70% believed that art activities helped children learn to read and write.

More than 90% of the parents interviewed believed that art was an important subject in their children's schooling. Nearly 60% of the parents expressed the conviction that not enough time is provided for art instruction in school curricula. Not one parent stated that too much time is given to the visual arts in preschools or public schools.

The findings of this study suggest that parents who place children in day care centers or nursery schools have considerable interest in child art and support their children's involvement in art activities and learning situations more fully than do parents who are unfamiliar with the practices common to such settings. It is equally significant to report that positive beliefs about the value of the arts in education seem to cut across racial and economic lines: All parents reported strong support for the visual arts in preschool and public school curricula.

On Relationships Pertaining to Drawing Ability and Academic Performance

This inquiry detected several noteworthy relationships between children's attendance in day care centers or nursery schools and their academic performance and drawing ability once they enter public schools. For instance, it was determined that nearly two-thirds of the students ranked as outstanding academic achievers by primary teachers had some experience in day care or nursery school, while students identified as below average tended to be those who had not participated in formal preschool programs. (See Table 1.) This suggests that daycare or nursery school experience contributes in some way to children's later success in public school. While the nature and the extent of the contributions that formal preschool experiences make to a child's subsequent drawing and academic performance have yet to be fully examined, these preliminary findings are most provocative.

Quite simply, attendance in day care centers or nursery schools was found to relate to a child's drawing ability. Whatever the duration of time children spent in such settings, teachers unknowingly ranked students in a manner that suggests that attendance influenced a child's ability to draw in a most positive way. (See Table 2.) Of the children ranked as drawing exceptionally well for their age or grade level, 72% had formal preschool experiences, while the percentage of attendance decreased to 58% among those children whose drawing ability was deemed less advanced. It appears that drawing abilities (which in turn tend to ground overall artistic behaviors) are well nourished by the more extensive experiences available to young children who attend day care centers or nursery schools.

These findings became increasingly tantalizing as data on the relationships between drawing abilities and academic success were analyzed. Children who are perceived to draw exceptionally well are likely to be considered outstanding or very good academic achievers. Close to 80% of the primary school children ranked as academically advanced by their teachers were also thought to draw exceptionally well. (See Table 3.) This pattern is pronounced in that *none* of the stu-

Table 1.

SUMMARY OF TEACHER ASSESSMENT OF ACADEMIC ABILITY TO DAY CARE CENTER/NURSERY SCHOOL ATTENDANCE

DAY CARE	ACADEMIC ABILITY: Out-standing	Very Good	Average	Weak	Far Below Average
Public School w/ Day Care	62%	47%	44%	37%	37%
Public School w/o Day Care	38%	53%	56%	63%	63%
TOTAL	100%	100%	100%	100%	100%

($X^2 = 7.88$ $p < .10$)

dents ranked as being outstanding or very good academic performers were placed in categories which indicated that they did not draw well. These findings not only support art educators' conviction that children's drawing behaviors profoundly affect academic development, but seem to indicate that this relationship is far stronger than the educational community heretofore suspected.

Gender and race were also considered in analysis of the data gathered. Gender imbalances were not detected in day care or nursery school attendance, but the claim that female children tend to be more advanced than their male counterparts in both academic and drawing ability was supported. (See Tables 4 and 5.) Children belonging to minority groups were less likely to have attended day care centers or nursery schools (see Table 6), and tended to be ranked as less advanced in academic and drawing ability (see Tables 7 and 8). These findings, coupled with the insights that emerged regarding the influences of formal preschool experience on primary school performance, suggest that the kind and quality of children's experiences in preschool settings—and especially those experiences related to the visual arts—may influence children's growth and development more strongly than is currently suspected.

A look into children's home environments was part of the inquiry. The beliefs and values of parents were remarkably consistent with those promoted by teachers and art educators. Many parents reported that they engaged in art-related activities with their children, including museum visits, discussion and display of children's art, and so on. Yet questions related to the provision of art and art-like media and materials for children's use at home produced some surprising answers. The most significant finding makes clear that day care or nursery school attendance has some impact on the number of art or art-like materials children have at home (see Table 9).

Table 2.

TEACHER ASSESSMENT OF DRAWING ABILITY TO DAY CARE CENTER/NURSERY SCHOOL ATTENDANCE

DAY CARE TIME	DRAWING ABILITY: Exceptnly Well	Very Well	Reasnbly Well	Not Very Well	Far Below Average
<6 mos.	7%	10%	10%	14%	
>6 mos.	21%	12%	11%	8%	8%
>1 year	19%	16%	18%	15%	25%
>2 year	8%	13%	13%	8%	17%
>3 year	17%	11%	7%	10%	8%
No Day Care	28%	38%	41%	45%	42%
TOTAL	100%	100%	100%	100%	100%

($\chi^2 = 16.83$ $p < .66$) -

Asked to list the art materials available in their home for their children's use, parents listed from three to seventeen items. It became apparent, however, that parents were often poorly informed about art media, their properties, applications, or contribution to children's learning. A particularly troubling trend emerged as this was examined: The number of art materials available to children in minority households tended to be far fewer than those reported in non-minority homes (see Table 10). The implications of this finding seem especially unsettling when the relationship of early drawing experience to academic and drawing ability are considered.

Conclusions and Recommendations

The findings of this inquiry are not only consistent with the beliefs and values held by a large number of art educators

Table 3.

TEACHER ASSESSMENT OF DRAWING ABILITY TO ACADEMIC ABILITY

ACADEMIC ABILITY	DRAWING ABILITY: Exceptnly Well	Very Well	Reasnbly Well	Not Very Well	Far Below Average
Outstanding	58%	17%	9%		
Very Good	25%	47%	25%	5%	
Average	13%	29%	42%	40%	22%
Weak	2%	4%	19%	45%	17%
Far Below Average	2%	3%	5%	10%	61%
TOTAL	100%	100%	100%	100%	100%

($X^2 = 244.44$ $p < .00$)

and many of their colleagues in other fields; they advance their case. The results strongly suggest that the nature of the visual arts and their relevance to human growth and development should be a central issue in the practices embraced by parents, personnel in day care centers and nursery schools, and teachers in the primary grades. The data we have gathered and analyzed provoke the following conclusions:

1. To a great extent, day care center and nursery school personnel emphasize art and art-like activities in their care for young children. It is strongly suspected that these teachers and caregivers emphasize art and art-like activities to a far greater extent than home caregivers tend to do. It follows, then, that children who attend day care centers and/or nursery schools draw far more frequently than do children who know only home care.

2. Children who attend day care centers and/or nursery schools perform better in both drawing and academic tasks as they advance through the primary grades.

3. The art and art-like activities in which children engage in both home care situations and formal preschool settings

Table 4.

TEACHER ASSESSMENT OF ACADEMIC ABILITY BY GENDER

ACADEMIC ABILITY	STATUS: FEMALE	STATUS: MALE
Outstanding	18%	9%
Very Good	26%	25%
Average	33%	38%
Weak	16%	20%
Far Below Average	7%	8%
TOTAL	100%	100%

($X^2 = 8.44$ $p < .07$)

Table 5.

TEACHER ASSESSMENT OF DRAWING ABILITY BY GENDER

DRAWING ABILITY	STATUS: FEMALE	STATUS: MALE
Above Average	37%	30%
Average	51%	48%
Below Average	12%	22%
TOTAL	100%	100%

($X^2 = 11.83$ $p < .00$)

tend to be strongly biased toward drawing activities which, in turn, are shown to relate to academic achievement—i.e., in the case of young children, strong drawing abilities correspond to high academic achievement, while weak drawing abilities correspond to low academic achievement.

4. Since day care center and nursery school personnel tend to emphasize art or art-like experiences which are strongly biased toward drawing activities, and since children who have attended day care or nursery schools usually draw more and better and appear to enjoy heightened academic success in the primary grades, it seems reasonable to concluded that drawing is a significant factor in enhancing a child's primary school performance.

5. Of all the benefits that accrue from a young child's accumulation of home-care and/or day care center or nursery school experience, it is the quality and quantity of drawing activities that emerge as having a particularly positive effect on their academic achievement through the primary grades and, perhaps, throughout their schooling: It may even be that they underpin this success.

Other conclusions accompany the line of reasoning outlined above. This inquiry amplifies the critical need to broaden the base of practice in visual arts education. It is increasingly apparent that young children need experiences that are essentially integrated and integrating: Their development is not well nourished by subject matter specialists who limit their work to a narrow method of practice predicated on objects and skills. This data suggests, rather, that it is the en-

Table 6.

TIME SPENT IN DAY CARE CENTERS/NURSERY SCHOOLS BY MINORITY AND NON-MINORITY STUDENTS

		STATUS	
		Minority	Non Minority
DAY CARE TIME	<6 mos.	10%	9%
	>6 mos.	9%	15%
	>1 year	13%	21%
	>2 year	12%	11%
	>3 year	9%	10%
	No Day Care	47%	34%
	TOTAL	100%	100%

($X^2 = 11.39$ $p < .04$)

Table 7.

TEACHER ASSESSMENT OF MINORITY/NON-MINORITY ACADEMIC ABILITY

		STATUS	
		Minority	Non-Minority
ACADEMIC ABILITY	Outstanding	8%	22%
	Very Good	23%	28%
	Average	35%	36%
	Weak	23%	11%
	Far Below Average	11%	3%
	TOTAL	100%	100%

($X^2 = 34.285$ $p < .00$)

hancement of art and art-like *behaviors* that contribute to both the cognitive and the affective development of children. It follows that specialized, object-centered instructional practices—the specific study of works of art and/or artists and the mastery of arbitrarily-selected art-making techniques—are of limited value. This places greater responsibility on home caregivers, day care center and nursery school personnel, and primary classroom teachers to make decisions which insure that the children in their care have visual learning opportunities which are well-informed, wide-ranging in kind, ample in number, and integrated, in sense-appropriate ways, with all that children are experiencing.

Concurrently, as early childhood caregivers and educationists are given or acquire greater authority in visual arts education, the role of visual arts specialists at the primary level must change. Art teachers must exhibit expertise in behavioral theory, staff development, curriculum articulation and implementation, assessment, and a broad range of technical skills. Art teachers must cultivate an even deeper understanding of subject matter than is evident in the essentially object-centered practices which many art specialists currently embrace and many teachers of young children strive to follow.

Table 8.

TEACHER ASSESSMENT OF MINORITY/NON-MINORITY STUDENT DRAWING ABILITY

DRAWING ABILITY	STATUS: Minority	STATUS: Non-Minority
Exceptionally Well	6%	14%
Very Well	23%	24%
Reasonably Well	50%	50%
Not Very Well	16%	11%
Far Below Average	5%	1%
TOTAL	100%	100%

($X^2 = 18.61$ $p < .00$)

Table 9.

NUMBER OF ART MATERIALS REPORTED IN MINORITY AND NON-MINORITY HOMES

NUMBER OF MATERIALS	STATUS: Minority	STATUS: Non-Minority
0 to 3	40%	8%
4 to 5	29%	29%
6 to 8	20%	34%
More Than 8	11%	29%
TOTAL	100%	100%

($x^2 = 75.70$ $p. < .00$)

This study also supports the conclusion that early childhood educators must find ways to inform parents about the benefits of art and art-like activities for young children. Data indicates that parental support for these activities is a major factor in the enhancement of children's abilities to succeed academically in the early years of schooling. This conclusion has special importance for children who are members of minority groups and those who work with them.

Finally, this research emphasizes the need for additional study of the role of the visual arts in young children's growth and development. The issues related to race and gender beg for intensive study. Other research must address methodology, developmental issues, systemic concerns, the professional development of teachers and caregivers, and the cultural forces young children confront. Other studies must reveal the nature and the degree of correspondence between the developmental patterns and school performances of children enrolled in day care centers, nursery schools, and public schools. Research must investigate the assumptions caregivers and teachers use to ground their practices, especially those related to drawing activities. Finally, studies related to all these concerns should be initiated in communities ranging from great cities to rural villages in all regions of the country.

Such are some of the findings, speculations, and conclusions emerging from this inquiry. They are less a matter of

Table 10.

SUMMARY OF NUMBER OF ART MATERIALS IN THE HOME AS INFLUENCED BY DAY CARE CENTER / NURSERY SCHOOL ATTENDANCE TIME

DAY CARE	NUMBER OF MATERIALS			
	0 to 3	4 to 5	6 to 8	more than 8
Day Care	39%	53%	70%	82%
No Day Care	61%	47%	30%	18%
TOTAL	100%	100%	100%	100%

($x^2 = 55.31$ $p < .00$)

statistical absolutes, irrefutable fact, or heady revelation than they are a confirmation of the profound importance of a type of compulsive human behavior that we deem to be art-like, especially when it occurs among the very young. The inquiry marks only a beginning of the efforts that must be made in order to better serve the very young, but it suggests a number of ways those future efforts might proceed. For all that is left undone or not well done, the data reported here has strengthened corporate support for art education, informed theory and modified the methodology that is employed in university courses, and provided a compelling argument for strengthening the role of the visual arts in home care environments, formal preschool settings, and elementary curricula. Indeed, there is reason to anticipate the possibility that young children may soon enjoy a sense-appropriate education—one which may nurture sensible adults.

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